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1991 ANNUAL REPORT OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUND

COMMUNICATION

FROM

THE BOARD OF TRUSTEES, FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUND

TRANSMITTING

THE 1991 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS, PURSUANT TO 42 U.S.C. 201(c)(2)

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1991 ANNUAL REPORT OF
THE BOARD OF TRUSTEES OF THE
FEDERAL OLD-AGE AND SURVIVORS
INSURANCE
AND DISABILITY INSURANCE TRUST FUNDS

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THE 1991 ANNUAL REPORT OF THE BOARD,
PURSUANT TO
SECTION 201(c)(2) OF THE SOCIAL SECURITY ACT,
AS AMENDED

LETTER OF TRANSMITTAL

BOARD OF TRUSTEES OF THE
FEDERAL OLD-AGE AND SURVIVORS INSURANCE
AND DISABILITY INSURANCE TRUST FUNDS.
Washington, D.C., May 17, 1991

HONORABLE THOMAS S. FOLEY
Speaker of the House of Representatives
Washington, D.C.

HONORABLE DAN QUAYLE
President of the Senate
Washington, D.C.

GENTLEMEN: We have the honor of transmitting to you the 1991 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance Trust Fund and the Federal Disability Insurance Trust Fund (the 51st such report), in compliance with section 201(c)(2) of the Social Security Act.

Respectfully,

NICHOLAS F. BRADY, *Secretary of the Treasury, and Managing Trustee of the Trust Funds.*

LYNN MARTIN, *Secretary of Labor, and Trustee.*

LOUIS W. SULLIVAN, M.D., *Secretary of Health and Human Services, and Trustee.*

STANFORD G. ROSS, *Trustee.*

DAVID M. WALKER, *Trustee.*

JOHN R. DYER, *Acting Commissioner of Social Security, and Secretary, Board of Trustees.*

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1991 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS

SUMMARY

Highlights

During calendar year 1990, the combined assets of the Old-Age and Survivors Insurance (OASI) and Disability Insurance (DI) Trust Funds increased by $62.3 billion, continuing the growth that began in 1983 when the Social Security Amendments of 1983 were enacted. The 1990 growth in assets consisted of increases of $59.1 billion in the OASI Trust Fund and $3.2 billion in the DI Trust Fund. Both of these increases were significantly larger than the corresponding increases in the previous calendar year, which amounted to $52.2 billion and $1.0 billion, for the OASI and DI Trust Funds, respectively.

The combined trust funds are expected to continue growing for many years into the future. Based on intermediate assumptions, the combined trust funds are estimated to reach a level of about 4 times annual outgo in the next 25 years. Even if future experience is very adverse, the combined funds are estimated to increase to over 1 1/2 times annual outgo during the next 15 years. However, the estimates of trust fund growth during the next several years are lower than the estimates in the 1990 Annual Report, of the Board of Trustees, due largely to the recession that began in 1990.

Estimates of the operations of the trust funds during the next 75 years are shown in the 1991 Annual Report for three alternative sets of assumptions. One set—alternative II—is referred to as intermediate and represents the Board's best estimate of the future course of the population and the economy. Another set—alternative I—is more optimistic, and the third—alternative III—is more pessimistic than alternative II. In the annual reports of 1981-1990, estimates of trust fund operations during the next 75 years were shown for four alternative sets of assumptions. Two of the four sets were intermediate assumptions designated as alternatives II-A and II-B. (The two intermediate sets used the same assumptions for population growth, but alternative II-A used more robust economic assumptions than alternative II-B.)

All of the estimates under the full range of assumptions are useful in assessing the financial status of the OASDI program. In the 1991 report, specific tests of the financial adequacy of the trust funds are based on the alternative II assumptions. In previous reports, when there were two intermediate sets of assumptions, such tests were based on the alternative II-B assumptions. Comparisons of intermediate estimates in the 1991 report with corresponding estimates in the 1990 report are also based on the alternative II-B estimates in the 1990 report.

A new test of the financial adequacy of the trust funds, for both the short range and the long range, is introduced in this report. The test applies to each fund separately, as well as to the combined funds, based on intermediate assumptions. The short-range test of financial adequacy is met if, over the next 10 years, the fund's assets at the beginning of each year are at least as large as the following year's outgo. If the fund's assets are less than the following year's outgo at the beginning of any of the first 5 years, but reach at least 100 percent of the next year's outgo by the beginning of the 6th year, and remain at or above 100 percent throughout the remainder of the 10-year period, the fund still meets the short-range test, if estimated assets are sufficient to pay estimated benefits when due during the entire 10-year period.

Due to the expected growth in the OASI fund over the next 10 years, both the OASI Trust Fund, by itself, and the combined OASI and DI Trust Funds meet the short-range test of financial adequacy, which is based on intermediate assumptions. However, the DI fund does not meet the short-range test; and, under conditions that are more pessimistic than the intermediate assumptions, the DI fund would be depleted during the next 10 years. Thus, the estimates indicate a need to strengthen the financial position of the DI fund. Because of the growth in the OASI fund, a reallocation of contribution rates between OASI and DI could make the DI fund financially adequate in the short range without causing the OASI fund to fail the short-range test for financial adequacy.

Under the intermediate assumptions, the long-range 75-year estimates, excluding the effects of interest income, indicate that the OASDI program will experience about 26 years of positive annual balances, with annual deficits indefinitely thereafter. Including interest, the trust funds would continue to grow, in dollars, for another decade, before steadily declining to exhaustion 50 years from now.

Over the next 75 years, the program has an actuarial deficit of 1.08 percent of taxable payroll, based on the intermediate assumptions. This deficit takes account of future income and outgo over the next 75 years and the combined assets of the OASI and DI Trust Funds at the beginning of the projection period. Also, in this year's report, the cost of reaching and maintaining a "target" trust fund level of 100 percent of expenditures by the end of the 75-year projection period is reflected in the actuarial deficit.

The cost of the target trust fund level increases the 75-year actuarial deficit by an estimated 0.16 percent of taxable payroll. The resulting deficit of 1.08 percent of taxable payroll is 0.17 percent larger than the deficit of 0.91 percent of taxable payroll shown in the 1990 report under alternative II-B. Thus, without this change to include the cost of a 100-percent target trust fund level, the actuarial deficit for the next 75 years, under this year's intermediate assumptions, would be nearly the same as the actuarial deficit under the alternative II-B assumptions in last year's report. There were, however, other changes from last year's estimated deficit for the OASDI program which were largely offsetting, as shown below (as a percentage of taxable payroll):

Shown in last year's report under alternative II-B:		
Income rate		13.04
Cost rate		13.95
Actuarial balance		−.91
Changes in actuarial balance due to changes in:		
Legislation	+ 0.17	
Valuation period	−.05	
Demographic assumptions	+ .04	
Economic assumptions	−.11	
Disability assumptions	−.01	
Methods	−.06	
Subtotal for above changes	−.01	
Cost of reaching ending trust fund target	−.16	
Total change in actuarial balance		−.17
Shown in this report under alternative II:		
Actuarial balance		−1.08
Income rate		13.11
Cost rate		14.19

Note: Totals may not equal sums of components, due to rounding.

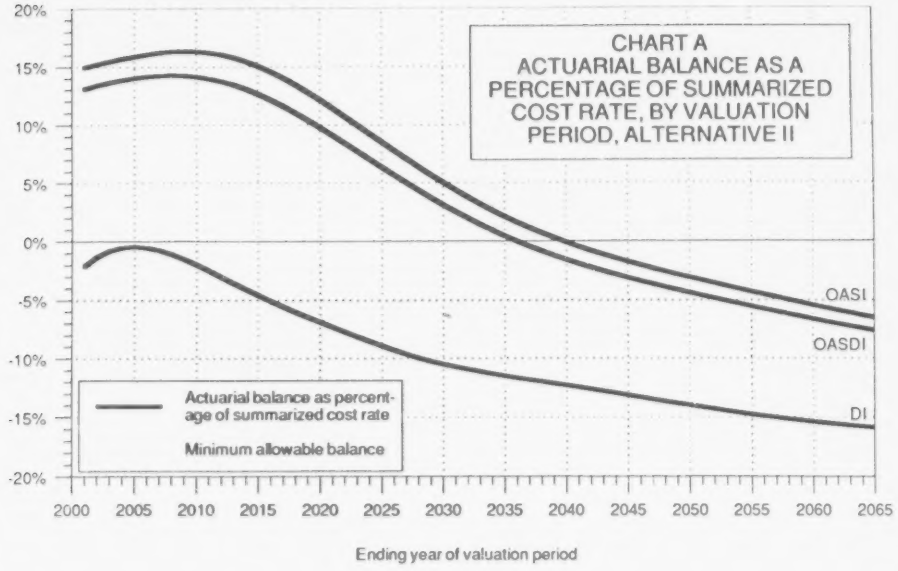
The actuarial deficit of 1.08 percent of taxable payroll results from an actuarial income rate of 13.11 percent of taxable payroll (including beginning trust fund balances) and an actuarial cost rate of 14.19 percent of taxable payroll (including the ending trust fund target of 100 percent of annual expenditures). The estimated long-range deficit is, therefore, 7.6 percent of the estimated cost rate.

The program has traditionally been considered to be adequately financed over the next 75 years when the long-range actuarial balance is within 5 percent of the long-range cost rate. The new long-range test for close actuarial balance requires that, if the actuarial balance over the next 75 years is a deficit, the deficit must be no more than 5 percent of the cost rate over the 75-year period and, in addition, that any actuarial deficit for the first 11 years, the first 12 years, etc., up to the first 75 years, be no more than a specified percentage of the cost rate for the same period. The specified percentage is 5 percent for the full 75-year period and is decreased uniformly for shorter periods, approaching zero as the duration of the time periods approaches the first 10 years.

The new test, while more complicated than prior tests, is also more stringent. It can reveal situations in which the 75-year actuarial balance may be satisfactory, but temporary depletion of a trust fund occurs within the 75-year period.

Chart A shows the OASDI actuarial balance, under the intermediate assumptions, as a percentage of the summarized cost rate for each valuation period beginning with the 11-year period that ends in 2001 and culminating with the 75-year period that ends in 2065. As shown in the chart, the OASDI program fails to meet the new long-range test for the 58-year period from 1991 through 2048 and for all longer periods through the 75-year, 1991-2065 period because the actuarial deficits for those periods are in excess of the allowable margins. The program, therefore, is not in close actuarial balance. The Board of Trustees recommends continued extensive study of possible ways to address the long-range deficits, in addition to consideration of ways to strengthen

the financial status of the DI program.



During the first part of the long-range projection period, the combined OASI and DI Trust Funds are expected to accumulate rapidly to a peak fund ratio of 418 percent of annual outgo in the year 2015, based on the intermediate assumptions (see Chart F, which appears later in this summary). Thereafter, the fund ratio is estimated to decline until the combined funds are exhausted in 2041, or 2 years earlier than estimated in last year's report. Thus, according to the intermediate estimates, the OASDI program would have enough funds (on a combined basis) to cover expenditures for the next 50 years into the future.

For OASI and DI, separately, the long-range actuarial balances, based on the intermediate assumptions, are deficits of 0.82 percent and 0.27 percent of taxable payroll, respectively. Chart A shows that each fund is not in close actuarial balance. The estimated DI balances are deficits for all of the long-range periods from the first 11 years (1991-2001) through the full 75 years (1991-2065). Because of the pattern and magnitude of the long-range DI deficits, consideration should be given to possible ways of strengthening the financial position of the DI program in the long range, as well as in the short range.

The appointment of an Advisory Council on Social Security was announced by the Secretary of Health and Human Services in June 1989. Under the Social Security Act, the Advisory Council is to study and review the status of the Social Security cash benefit and Medicare programs. An Interim Report on Social Security and the Federal Budget was issued by the Council in July 1990. The Council is scheduled to

submit its final report and recommendations to the Secretary of Health and Human Services later this year, for consideration by the Board of Trustees.

A Social Security Panel of Technical Experts, convened by the Council, reviewed the estimates of the financial status of the OASDI program that were presented in the 1990 Annual Report. In general, the Panel found the work done in preparing the estimates to be sound, professional and highly competent. The Panel recommended some changes in the economic assumptions and the adoption of the new test of the financial condition of the trust funds. A Working Group of other technical experts co-chaired by the two former public trustees also made recommendations to the Board of Trustees on measures of the financial condition of the trust funds and tests of the funds' financial adequacy. The 1991 Annual Report reflects consideration of the reports of both the Advisory Council's Panel of Technical Experts and the Trustees working group.

1. Program Description

The OASDI program consists of two separate parts which pay monthly benefits to workers and their families:

(1) Old-Age and Survivors Insurance (OASI) pays benefits after a worker retires and to survivors after a worker dies.

(2) Disability Insurance (DI) pays benefits after a worker becomes disabled.

The Board of Trustees of the trust funds is required by law to report annually to the Congress on the financial condition of the funds and on estimated future results. The Board is composed of five members, three of whom serve in an ex officio capacity: the Secretaries of the Treasury, Labor, and Health and Human Services. The other members, representing the public, are Stanford G. Ross and David M. Walker, who are serving 4-year terms that began on October 2, 1990.

Most OASDI revenue consists of contributions paid by employees, their employers, and the self-employed. (Additional contributions are paid into a separate trust fund for the Hospital Insurance (HI) part of Medicare. This summary focuses on OASDI and does not discuss Medicare.) The contribution rates are established by law. Contributions are paid on earnings not exceeding the earnings base—$53,400 in 1991 (for HI, the base was increased to $125,000 in 1991). The earnings base (for both OASDI and HI) will rise in the future as average wages increase. Employees and employers pay contributions at the same rate. The rate paid on self-employment income is equal to the combined rate for employees and employers. The current and scheduled future OASI and DI contribution rates for employees and employers, each, are shown below (as percentages):

Year	OASI	DI	Total
1990-99	5.60	0.60	6.20
2000 and later	5.49	.71	6.20

Since 1984, a portion (not more than one-half) of OASDI benefits received by higher income beneficiaries is subject to Federal income taxation. The revenues collected as a result of this provision are transferred from the general fund of the Treasury to the trust funds.

The outgo of the OASI and DI Trust Funds consists of benefit payments and administrative expenses. Trust fund assets may not be used for any other purposes.

During periods when outgo temporarily exceeds income, trust fund assets are used to meet the shortfall. In the event of recurring shortfalls, the trust funds can allow time for legislation to be enacted to restore balance to the program. The assets of the trust funds are invested in U.S. Government securities bearing rates of interest based on those for long-term securities issued to the general public.

2. Recent Results

During 1990, about 133 million workers made contributions to the OASDI program. At the end of December 1990, 39.8 million persons were receiving monthly benefits under the OASDI program. Administrative expenses represented about 0.9 percent of benefit payments in calendar year 1990.

Income to the OASI and DI Trust Funds in calendar year 1990 was $315.4 billion, while outgo was $253.1 billion. Thus, the assets of the combined funds increased by $62.3 billion during the calendar year. A summary of the OASDI financial operations in calendar year 1990 is shown below (in billions):

Trust fund assets at end of calendar year 1989	$163.0
Income during year:	
Contributions	296.1
Revenue from taxation of benefits	5.0
Net interest	17.2
Total income	315.4
Outgo during year:	
Benefit payments	247.8
Administrative expenses	2.3
Transfer to Railroad Retirement program	3.0
Total outgo	253.1
Net increase in assets during year	62.3
Trust fund assets at end of calendar year 1990	225.3

Note: Totals may not equal sums of components, due to rounding.

3. Actuarial Estimates

The annual report contains 75-year estimates of each fund's financial operations and status. Because precise prediction of the future is impossible, alternative sets of assumptions, representing a reasonable range of possible future experience, are used to make short-range and long-range estimates. Future experience could, however, fall outside the range indicated by these assumptions.

Future OASDI income and outgo will depend on a variety of economic and demographic factors including economic growth, inflation, unemployment, fertility, and mortality. These factors affect the

levels of workers' earnings and OASDI benefits, as well as the numbers of people making contributions and receiving benefits.

As noted earlier, the estimates in the 1991 report were prepared using three alternative sets of assumptions. Based on these alternative sets of assumptions, several measures are used to assess the actuarial status of the OASDI funds. Short-range measures usually focus on the adequacy of reserves available to pay benefits. Long-range measures usually focus on the balance between income and outgo during the projection period as well as the adequacy of the reserves.

The *contingency fund ratio* is the usual measure of the OASDI program's ability to pay benefits on time in the near future. This ratio is the amount in the trust funds at the beginning of the year divided by that year's expenditures. Thus, if the trust fund ratio is 50 percent, the amount in the fund represents about 6 months' outgo. A ratio of at least 8 to 9 percent is required to pay benefits at the beginning of each month. At the beginning of 1991, the fund ratio for OASDI was about 82 percent.

In analyzing the actuarial status of OASDI for the next 75 years, several different measures are commonly used. The annual *income rate* is the combined OASDI employee-employer contribution rate scheduled in the law, plus the income from taxation of benefits, expressed as a percentage of taxable payroll. The annual *cost rate* is the annual outgo expressed as a percentage of taxable payroll. The annual balance, which is the difference between the annual income rate and the annual cost rate, measures the adequacy of current funding in each year of the long-range projection period (not including accumulated assets that are also available in the trust funds). If the difference is negative, the annual balance is a deficit. The level and pattern of annual positive balances and annual deficits during various periods of time within the next 75 years measure the financial strength of the program over such periods.

If a trust fund becomes exhausted during the projection period, the year in which the exhaustion occurs is an important measure of the financial condition of the fund.

Summarized income and cost rates over a long-range projection period can be compared directly to measure the adequacy of the program's overall level of financing during the period. The income and cost rates are summarized over the period using present value calculations. The use of present value calculations appropriately discounts the future value of projected trust fund income or outgo by the assumed interest rate, thereby reflecting the full effect of interest. The summarized rates also take account of beginning trust fund assets and the cost of the ending target of 1 year's expenditures in trust fund assets.

The *actuarial balance* for a specified period, is the difference between the estimated summarized income rate and the estimated summarized cost rate for the period. If this actuarial balance is negative, the program is said to have an actuarial deficit. Such a deficit is a warning that future changes may be needed in the program's financing or benefit provisions.

4. Short-Range Financing (1991-2000)

Estimates for the next 10 years are used to assess the adequacy of OASDI financing in the short range. In this period, the numbers of persons receiving OASDI benefits can be estimated fairly accurately. Changes in the national economy, however, which are difficult to predict, can have major effects on income and outgo.

The actuarial estimates shown in the 1991 report indicate that the assets of the OASI and DI Trust Funds, if combined, would be sufficient to pay OASDI benefits on time throughout the first 10 years and for many years thereafter, based on all three sets of assumptions. The contingency fund ratio for the combined funds is estimated to reach at least 100 percent by the beginning of 1993 and at least 150 percent by the beginning of 1996 under alternative II. The OASI fund, by itself, can also operate satisfactorily for many years into the future. The OASI fund is expected to reach at least 100 percent of annual outgo by the beginning of 1992 and at least 150 percent by the beginning of 1995, under intermediate assumptions. The DI fund by itself, however, is not expected to reach 100 percent in the next 10 years (nor in the next 75). Under the adverse conditions assumed for alternative III, the DI fund is estimated to be exhausted in 1997.

Chart B shows the combined assets of the OASI and DI Trust Funds at the end of 1990 and the estimated assets at the end of each year 1991-2000, on the basis of all three sets of assumptions. The assets of the combined funds are estimated to increase each year.

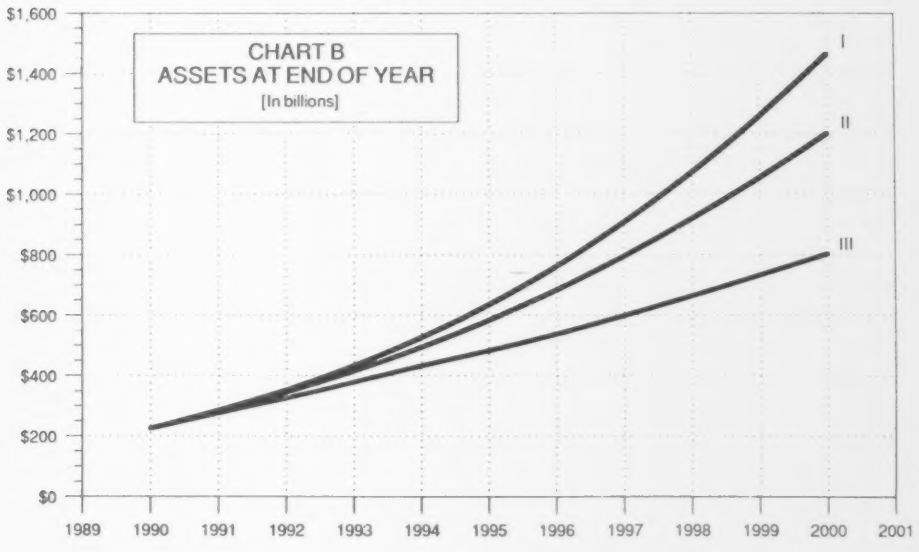
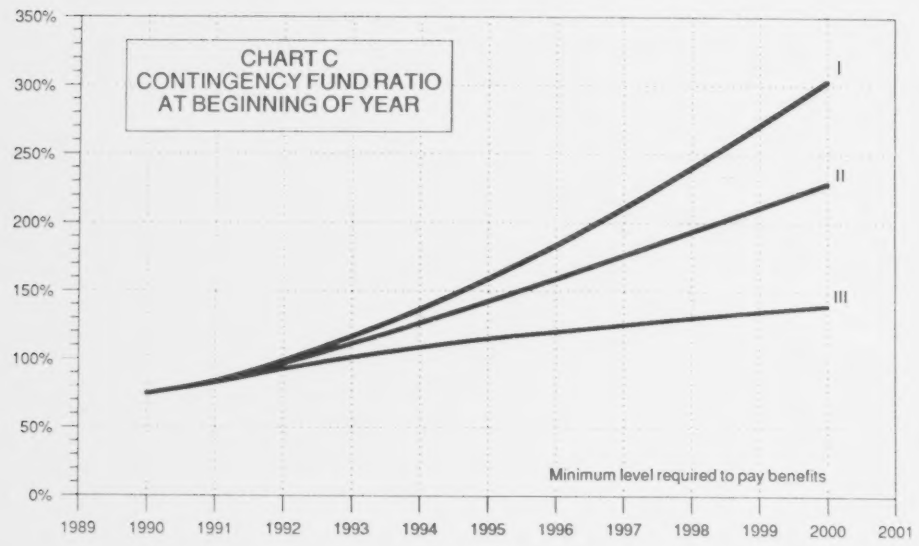


Chart C shows the OASDI contingency fund ratio for 1990 and the estimated OASDI ratios for 1991-2000, on the basis of all three sets of assumptions. The fund ratios for the combined trust funds are estimated to increase each year.



5. Long-Range Financing (1991-2065)

Long-range 75-year estimates for OASDI, although sensitive to variations in the assumptions, indicate the trend and general range of the program's future financial status. During this long-range period, income and outgo are greatly affected by demographic, as well as economic, conditions. Most of the beneficiaries during the next 75 years have already been born, so that their numbers are projected mainly from the present population. The numbers of workers involved in these projections, however, depend largely on future birth rates, which are subject to more variability and, to a lesser extent, future rates of immigration.

Several important demographic trends are anticipated, which will raise the proportion of the aged in the population during the next 75 years. First, because of the large number of persons born in the 2 decades after World War II, rapid growth is expected in the aged population beginning around the year 2010. Second, assumed declines in death rates would increase the numbers of aged persons more gradually, but on a steady and permanent basis. At the same time, birth rates, which began to decline in the 1960s and are assumed to remain relatively low in the future, would hold down the numbers of young people. Increases in net immigration, resulting from the Immigration Act of 1990, will

contribute to larger numbers of young people, partially offsetting the lower fertility rates.

Chart D shows the long-range trend in the number of covered workers per OASDI beneficiary. (The term "beneficiary" includes not only retired workers, but also disabled workers, spouses, children, and survivor beneficiaries.) Based on the intermediate assumptions, this ratio is estimated to decline gradually from 3.4 in 1990 to 3.0 in 2010. From 2010 to 2030, the estimated ratio falls rapidly to 2.0 as the number of beneficiaries increases more rapidly than the number of covered workers. After 2030, the ratio is estimated to decline gradually.

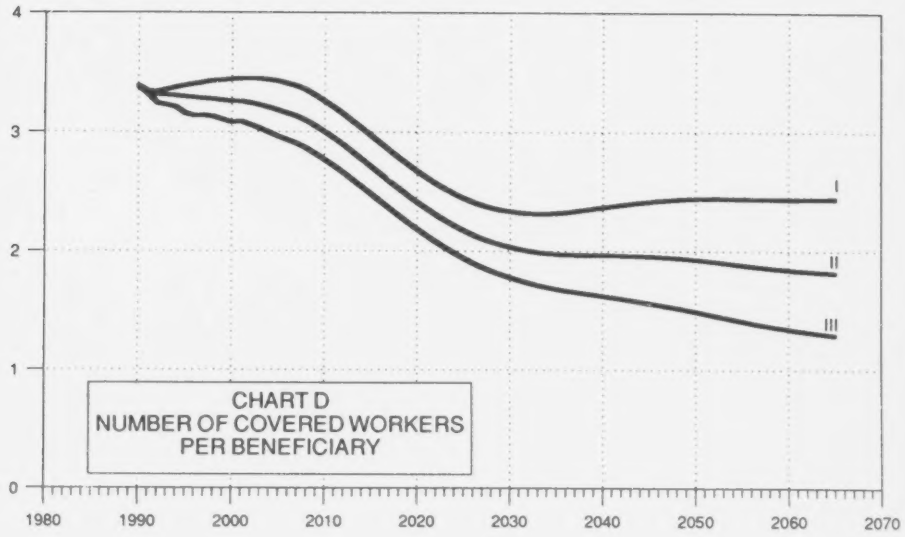


Chart E shows the estimated OASDI income and cost rates for the long-range projection period. During the first 20-25 years of this period, the estimates indicate that the income rate will generally exceed the cost rate, resulting in substantial positive balances each year. The reverse is true by 2017 for the intermediate assumptions and by 2010 for the more pessimistic assumptions, with the cost rate exceeding the income rate, thus resulting in substantial deficits. For the more optimistic assumptions, the cost rate exceeds the income rate only temporarily, from 2026 through 2037.

These positive balances and deficits do not reflect interest earnings, which result in trust fund growth continuing for about 10 years after the first annual deficits occur, under the intermediate assumptions. The cost rate is estimated to increase rapidly after the first half of the 75-year projection period, primarily because the number of beneficiaries is projected to increase more rapidly than the number of covered workers.

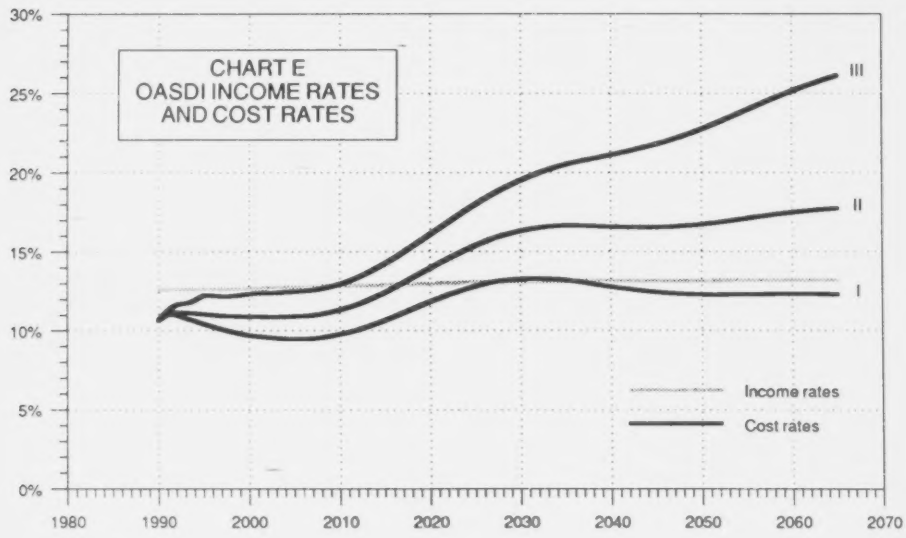
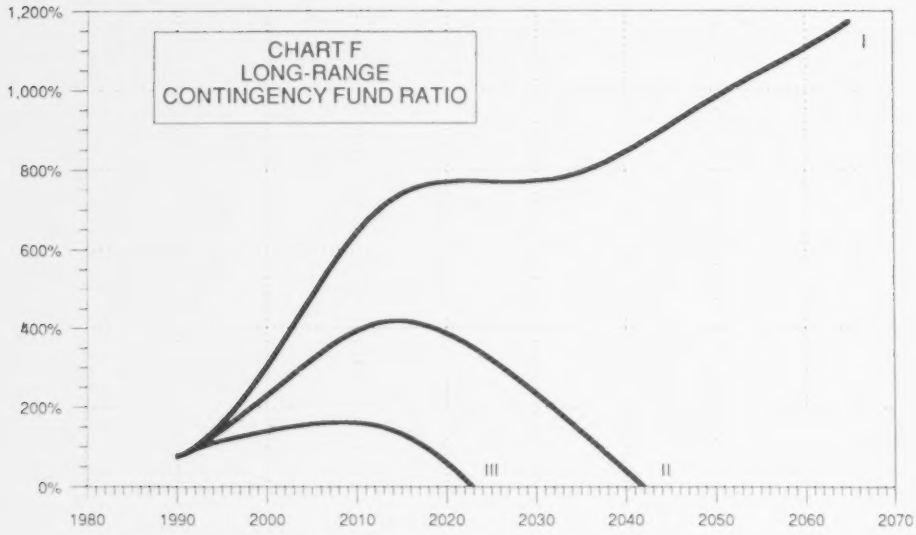


Chart F shows the projected OASDI contingency fund ratios for the 75-year period. The ratio rises steadily and reaches 418 percent in 2015, based on the intermediate assumptions; then the ratio declines until the combined funds are exhausted in 2041. The importance of the trust funds' accumulation of reserves is emphasized by Chart F. As the chart shows, the build-up in the reserves will be needed later on to pay benefits to the increasing numbers of retired persons who were born in the high birth-rate years from the mid-1940s to the mid-1960s.



The table below presents a comparison of the annual income and cost rates for the 75-year long-range projection period, based on the three sets of assumptions. The figures are expressed as percentages of taxable payroll.

Assumptions	Income rate	Cost rate	Actuarial balance
More optimistic	13.00	11.65	1.34
Intermediate	13.11	14.19	–1.08
More pessimistic	13.25	17.37	–4.12

Note: Income rate, cost rate, and actuarial balance are defined in the text.

The long-range OASDI actuarial deficit of 1.08 percent of taxable payroll, based on the intermediate assumptions, results from an income rate of 13.11 percent of taxable payroll over the 75-year period (including beginning trust fund balances) and a cost rate of 14.19 percent over the period. In the absence of other changes, the long-range actuarial balance will tend to worsen slowly in future annual reports, as the valuation period moves forward and additional distant year deficits are included in the valuation. The actuarial deficits in the later years of the 75-year projection period are caused primarily by the demographic trends described above, in combination with a flat contribution rate schedule.

The pattern of positive balances in the first third of the next 75 years and deficits thereafter, under the intermediate assumptions, results in a positive actuarial balance of 1.47 percent of taxable payroll for the next 25 years, an actuarial deficit of 0.21 percent for the next 50 years, and the 1.08-percent deficit for the entire 75 years. Summarized deficits for the second and third 25-year subperiods are significantly larger than the actuarial deficits for the 50-year and 75-year valuation periods, respectively, because these subperiods do not include the relatively more favorable annual balances for earlier years. The summarized balances, not taking account of funds on hand at the beginning of the subperiod nor the cost of an ending trust fund target of 100 percent of annual expenditures, are a positive balance of 1.49 percent of taxable payroll for the first 25 years, a deficit of 2.37 percent for the second 25 years, and a deficit of 3.88 percent for the third 25 years, under the intermediate assumptions.

I. THE BOARD OF TRUSTEES

The Federal Old-Age and Survivors Insurance Trust Fund and the Federal Disability Insurance Trust Fund are held by the Board of Trustees under the authority of section 201(c)(1) of the Social Security Act. The Board is composed of five members, three of whom serve in an ex officio capacity: the Secretary of the Treasury, the Secretary of Labor, and the Secretary of Health and Human Services. The President nominated and the Senate confirmed Stanford G. Ross and David M. Walker to be the other two members, who serve as representatives of the public. Mr. Ross and Mr. Walker are serving 4-year terms that began on October 2, 1990.

By law, the Secretary of the Treasury is designated as the Managing Trustee, and the Commissioner of Social Security is designated as the Secretary of the Board. The Board of Trustees reports to the Congress each year on the operations and status of the trust funds, in compliance with section 201(c)(2) of the Social Security Act. This annual report, for 1991, is the 51st such report.

II. ADVISORY COUNCIL ON SOCIAL SECURITY

The Secretary of Health and Human Services on June 19, 1989, announced the appointment of an Advisory Council on Social Security under the provisions of section 706 of the Social Security Act. The Council consists of a Chair and 12 members representing employers and employees, self-employed persons, and the public.

Under the law, the Social Security Advisory Council is charged with making a comprehensive study of the status of the Social Security cash benefit and Medicare programs. This study is to include an examination of the financial status of the trust funds in relation to the long-term commitments of the programs, benefit levels, the scope of coverage, and other aspects of the programs, including their impact on public assistance.

An Interim Report on Social Security and the Federal Budget was issued by the Council in July 1990. The Council is scheduled to submit its final recommendations to the Secretary of Health and Human Services in 1991. The Council's final report will then be transmitted by the Secretary to the Congress and to the Board of Trustees of each of the trust funds. The Council's recommendations with respect to the Old-Age and Survivors Insurance and Disability Insurance (OASDI) program will be considered in a later annual report of the Board of Trustees.

The Council convened a Social Security Panel of Technical Experts, consisting of four actuaries and five economists, to review the estimates of the financial status of the OASDI program and related subjects. The Panel has submitted a report of its findings. In general, the Panel found the work done in preparing the estimates in the 1990 Annual Report to be sound, professional, and highly competent. The Panel found that the demographic assumptions underlying the estimates were reasonable in the aggregate and appropriate for their purposes. The Panel did recom-

mend some changes in the economic assumptions. The Panel also recommended the adoption of a new test of the financial condition of the OASI and DI Trust Funds. The estimates in this report reflect consideration of the Panel's report.

III. SOCIAL SECURITY AMENDMENTS SINCE THE 1990 REPORT

Since the 1990 Annual Report was transmitted to the Congress on April 18, 1990, two laws affecting the OASDI program have been enacted. The legislative changes having significant effects on the financial status of the program are described below.

The Omnibus Budget Reconciliation Act of 1990 (Public Law 101-508, enacted on November 5, 1990) included a number of provisions affecting the OASDI program. One provision, though not affecting the trust funds, explicitly removes the financial operations of the trust funds from the calculation of Federal Budget deficit targets under the Balanced Budget and Emergency Deficit Control Act of 1985 (also known as the Gramm-Rudman-Hollings Act). Among the provisions affecting the trust funds from a financial standpoint, the most significant changes:

1. Mandatorily cover under the OASDI program employees of State and local governments who are not covered under a retirement system. Students employed by the educational institution they are attending are excluded. The provision is effective with respect to services performed after July 1, 1991.
2. Accelerate the deposit schedule for 1991 and later for employers whose withheld Social Security and income taxes total $100,000 or more at times set by regulations.
3. Credit the trust funds with tax receipts as they are collected throughout the month, rather than in advance (at the first of the month), as under prior law. However, the advance tax transfer mechanism is retained as a contingency to be used if the trust funds drop to such a low level that it is needed in order to pay benefits. The provision was effective as of December 1, 1990.
4. Extend (a) the exclusion from taxation of employer-provided educational assistance and group legal services and (b) the tax exemption for qualified group legal services organizations, both through taxable years beginning before 1992.
5. Repeal the stricter definition of disability to qualify for disabled widow(er)s' benefits and instead apply the same definition of disability used in adjudicating claims for disabled workers' benefits. The provision is generally effective for disabled widow(er)s' benefits payable after December 1990 on the basis of applications filed on or after January 1, 1991, or pending on that date. (Under certain conditions, however, no application is required.)
6. Make permanent, effective upon enactment, the temporary provision permitting disability beneficiaries, whose benefits would otherwise be terminated due to a determination of medical cessation of disability, to elect to have their disability benefits continue through the hearing level of appeal. Under the provision, benefits may be continued until an administrative law judge makes a decision on the appeal. As under prior law, the disability benefits are subject to recovery if the final decision of the Secretary of Health and Human Services is that the individual is not disabled.

7. Provide that, effective January 1, 1992, a disabled beneficiary will exhaust the trial work period only by performing services in 9 months in a rolling 60-month period, i.e., any period of 60 consecutive months. Also, repeal the provision which precludes a reentitled disabled worker from being eligible for a trial work period.
8. Repeal the provision which permitted a retired worker to elect up to 6 months of retroactive reduced benefits in order to charge off any excess earnings under the retirement test that the worker may have in the year of filing a claim for retirement benefits. Also repealed is a similar provision which allowed retroactive reduced benefits to be paid to such retired workers in cases where unreduced benefits are payable to family members as the spouse or child of the worker. Both changes are effective for applications for benefits filed after December 31, 1990.
9. Provide benefits to a "deemed" spouse (a person who entered into an invalid ceremonial marriage in good faith) regardless of whether the legal spouse is entitled to benefits on the same earnings record, effective for benefits payable for months after December 1990.
10. Modify the dependency requirements to permit a child adopted by a surviving spouse to be entitled to benefits based on the deceased worker's earnings record, if the child was either living with or receiving one-half support from the worker at the time of the worker's death. The provision is effective for benefits payable for months after December 1990, on the basis of applications filed after December 31, 1990.
11. Preclude the payment of benefits to certain uninsured persons reaching age 72 after 1990 who otherwise could have been entitled to benefits provided to such persons under the Tax Adjustment Act of 1966. This provision is effective for applications filed after the enactment date. The provision precludes the unintended payment of benefits (due to the interaction of the provision enacted in 1966 with subsequent changes in the law affecting the minimum benefit) to uninsured persons reaching age 72 after 1990.
12. Require a finding in each annual report of the Board of Trustees as to whether the OASI and DI Trust Funds, separately and combined, are in close actuarial balance (as defined by the Board of Trustees).

The Immigration Act of 1990 (Public Law 101-649, enacted on November 29, 1990) does not include any provisions directly affecting the OASDI program, but modifies general immigration policy in such a way as to have a significant effect on the program. The Act increases by 210,000 the number of immigrants admitted to the United States each year with a total limit of 700,000 immigrants annually. Although the majority of immigrants must have close family members who are U.S. citizens, 100,000 visas will be set aside for immigrants with certain skills.

Detailed information regarding these changes and other less significant changes can be found in documents prepared by and for the Congress. The actuarial estimates shown in this report reflect the anticipated effects of these changes.

IV. BASIS FOR TRUST FUND RECEIPTS AND EXPENDITURES

The Federal Old-Age and Survivors Insurance Trust Fund was established on January 1, 1940, as a separate account in the United States Treasury. All the financial operations of the OASI program are handled through this fund. The Federal Disability Insurance Trust Fund is another separate account in the United States Treasury; it was established on August 1, 1956. All the financial operations of the DI program are handled through this fund.

The primary receipts of these two funds are amounts appropriated to each of them under permanent authority on the basis of contributions payable by workers, their employers, and individuals with self-employment income, in work covered by the OASDI program. All employees, and their employers, in covered employment are required to pay contributions with respect to their wages. Employees, and their employers, are also required to pay contributions with respect to cash tips if their monthly cash tips amount to at least $20. All self-employed persons are required to pay contributions with respect to their covered net earnings from self-employment. In addition to making the required employer contributions on the wages of covered Federal employees, the Federal Government also pays amounts equivalent to the employer and employee contributions that would be paid on deemed wage credits attributable to military service performed after 1956 if such wage credits were covered wages.

In general, an individual's contributions, or taxes, are computed on wages or net earnings from self-employment, or both wages and net self-employment earnings combined, up to a specified maximum annual amount. The contributions are determined first on the wages and then on any net self-employment earnings, such that the total does not exceed the annual maximum amount. An employee who pays contributions on wages in excess of the annual maximum amount (because of employment with two or more employers) is eligible for a refund of the excess employee contributions.

The monthly benefit amount to which an individual (or his or her spouse and children) may become entitled under the OASDI program is based on the individual's taxable earnings during his or her lifetime. In computing benefits for almost all persons who first become eligible to receive benefits in 1979 or later, the earnings in each year are indexed to take account of increases in average wage levels.

The maximum amount of earnings on which contributions are payable in a year, and which is also the maximum amount of earnings creditable in that year for benefit-computation purposes, is called the contribution and benefit base. The contribution rates, or tax rates, applicable in each calendar year, and the allocation of the rates between the two trust funds, are shown in table 1. For 1991 and later, the rates shown are those scheduled in present law. The contribution and benefit bases are also shown in table 1. (The total contribution rates for the OASDI and Hospital Insurance programs combined, and for each program separately, are shown in Appendix E, table E1.)

TABLE 1.—CONTRIBUTION AND BENEFIT BASE AND CONTRIBUTION RATES

Calendar years	Contribution and benefit base	Contribution rates (percent)					
		Employees and employers, each			Self-employed		
		OASDI	OASI	DI	OASDI	OASI	DI
1937-49	$3,000	1.000	1.000	—	—	—	—
1950	3,000	1.500	1.500	—	—	—	—
1951-53	3,600	1.500	1.500	—	2.2500	2.2500	—
1954	3,600	2.000	2.000	—	3.0000	3.0000	—
1955-56	4,200	2.000	2.000	—	3.0000	3.0000	—
1957-58	4,200	2.250	2.000	0.250	3.3750	3.0000	0.3750
1959	4,800	2.500	2.250	.250	3.7500	3.3750	.3750
1960-61	4,800	3.000	2.750	.250	4.5000	4.1250	.3750
1962	4,800	3.125	2.875	.250	4.7000	4.3250	.3750
1963-65	4,800	3.625	3.375	.250	5.4000	5.0250	.3750
1966	6,600	3.850	3.500	.350	5.8000	5.2750	.5250
1967	6,600	3.900	3.550	.350	5.9000	5.3750	.5250
1968	7,800	3.800	3.325	.475	5.8000	5.0875	.7125
1969	7,800	4.200	3.725	.475	6.3000	5.5875	.7125
1970	7,800	4.200	3.650	.550	6.3000	5.4750	.8250
1971	7,800	4.600	4.050	.550	6.9000	6.0750	.8250
1972	9,000	4.600	4.050	.550	6.9000	6.0750	.8250
1973	10,800	4.850	4.300	.550	7.0000	6.2050	.7950
1974	13,200	4.950	4.375	.575	7.0000	6.1850	.8150
1975	14,100	4.950	4.375	.575	7.0000	6.1850	.8150
1976	15,300	4.950	4.375	.575	7.0000	6.1850	.8150
1977	16,500	4.950	4.375	.575	7.0000	6.1850	.8150
1978	17,700	5.050	4.275	.775	7.1000	6.0100	1.0900
1979	22,900	5.080	4.330	.750	7.0500	6.0100	1.0400
1980	25,900	5.080	4.520	.560	7.0500	6.2725	.7775
1981	29,700	5.350	4.700	.650	8.0000	7.0250	.9750
1982	32,400	5.400	4.575	.825	8.0500	6.8125	1.2375
1983	35,700	5.400	4.775	.625	8.0500	7.1125	.9375
1984[1]	37,800	5.700	5.200	.500	11.4000	10.4000	1.0000
1985[1]	39,600	5.700	5.200	.500	11.4000	10.4000	1.0000
1986[1]	42,000	5.700	5.200	.500	11.4000	10.4000	1.0000
1987[1]	43,800	5.700	5.200	.500	11.4000	10.4000	1.0000
1988[1]	45,000	6.060	5.530	.530	12.1200	11.0600	1.0600
1989[1]	48,000	6.060	5.530	.530	12.1200	11.0600	1.0600
1990	51,300	6.200	5.600	.600	12.4000	11.2000	1.2000
1991	53,400	6.200	5.600	.600	12.4000	11.2000	1.2000
Rates scheduled in present law:							
1992-99	([2])	6.200	5.600	.600	12.4000	11.2000	1.2000
2000 and later	([2])	6.200	5.490	.710	12.4000	10.9800	1.4200

[1]In 1984 only, an immediate credit of 0.3 percent of taxable wages was allowed against the OASDI contributions paid by employees, resulting in an effective contribution rate of 5.4 percent. The appropriations of contributions to the trust funds, however, were based on the combined employee-employer rate of 11.4 percent, as if the credit for employees did not apply. Similar credits of 2.7 percent, 2.3 percent, and 2.0 percent were allowed against the combined OASDI and Hospital Insurance contributions on net earnings from self-employment in 1984, 1985, and 1986-89, respectively. Beginning in 1990, self-employed persons are allowed a deduction, for purposes of computing their net earnings, equal to half of the combined OASDI and HI contributions that would be payable without regard to the contribution and benefit base. The contribution rate is then applied to net earnings after this deduction, but subject to the base.

[2]Subject to automatic adjustment.

All contributions are collected by the Internal Revenue Service and deposited in the general fund of the Treasury. The contributions are immediately and automatically appropriated to the trust funds on an estimated basis. The exact amount of contributions received is not known initially because the OASDI and HI contributions and individual income taxes are not separately identified in collection reports received by the Internal Revenue Service. Periodic adjustments (principal only) are subsequently made to the extent that the estimates are found to differ from the amounts of contributions actually payable as determined from reported earnings. Adjustments are also made to account for any refunds to employees (with more than one employer) who paid contributions on wages in excess of the contribution and benefit base.

From May 1983 through November 1990, amounts representing the estimated total collections of OASDI contributions by the IRS for each month were credited to the trust funds on the first day of the month. Reimbursements were made from the trust funds to the general fund for the interest lost by the general fund as a result of these advance transfers. Beginning December 1990, advance tax transfers are no longer made; however, such a transfer is authorized if the trust funds drop to such a low level that it is needed in order to pay benefits.

Beginning in 1984, a portion (not more than one-half) of OASDI benefits is subject to Federal income taxation under certain circumstances. The proceeds from this taxation of benefits are credited to the trust funds, in advance, on an estimated basis, at the beginning of each calendar quarter, with no reimbursement to the general fund for interest costs attributable to the advance transfers. Subsequent adjustments are made based on the actual amounts as shown on annual income tax records. The amounts appropriated from the general fund of the Treasury are allocated to the OASI and DI Trust Funds on the basis of the income taxes paid on the benefits from each fund. (A special provision applies to benefits paid to non-resident aliens. A flat-rate tax, usually 15 percent, is withheld from the benefits before they are paid and, therefore, remains in the trust funds.)

Another source of income to the trust funds is interest received on investments held by the trust funds. That portion of each trust fund which, in the judgment of the Managing Trustee, is not required to meet current expenditures for benefits and administration is invested, on a daily basis, in interest-bearing obligations of the U.S. Government (including special public-debt obligations described below), in obligations guaranteed as to both principal and interest by the United States, or in certain Federally sponsored agency obligations that are designated in the laws authorizing their issuance as lawful investments for fiduciary and trust funds under the control and authority of the United States or any officer of the United States. These obligations may be acquired on original issue at the issue price or by purchase of outstanding obligations at their market price.

The Social Security Act authorizes the issuance of special public-debt obligations for purchase exclusively by the trust funds. The Act provides that these obligations shall bear interest at a rate equal to the average market yield (computed on the basis of market quotations as of the end

of the calendar month next preceding the date of such issue) on all marketable interest-bearing obligations of the United States then forming a part of the public debt which are not due or callable until after the expiration of 4 years from the end of such calendar month. These special issues are redeemable at all times at par value and thus bear no risk with respect to the interest rate (i.e., risk due to price fluctuations).

Income is also affected by provisions of the Social Security Act for (1) transfers between the general fund of the Treasury and the OASI and DI Trust Funds for any adjustments to prior payments for the cost arising from the granting of noncontributory wage credits for military service prior to 1957, according to periodic determinations made by the Secretary of Health and Human Services; (2) annual reimbursements from the general fund of the Treasury to the OASI Trust Fund for any costs arising from the special monthly cash payments to certain uninsured persons—i.e., those who attained age 72 before 1968 and who generally are not eligible for cash benefits under other provisions of the OASDI program; and (3) the receipt of unconditional money gifts or bequests made for the benefit of the trust funds or any activity financed through the funds.

The major expenditures of the OASI and DI Trust Funds are for (1) OASDI benefit payments, net of any reimbursements from the general fund of the Treasury for unnegotiated benefit checks, and (2) expenses incurred by the Department of Health and Human Services and by the Department of the Treasury in administering the OASDI program and the provisions of the Internal Revenue Code relating to the collection of contributions. Such administrative expenses include expenditures for construction, rental and lease, or purchase of office buildings and related facilities for the Social Security Administration. The Social Security Act does not permit expenditures from the OASI and DI Trust Funds for any purpose not related to the payment of benefits or administrative costs for the OASDI program.

The expenditures of the trust funds are also affected by (1) costs of vocational rehabilitation services furnished as an additional benefit to disabled persons receiving cash benefits because of their disabilities where such services contributed to their successful rehabilitation, and (2) the provisions of the Railroad Retirement Act which provide for a system of coordination and financial interchange between the Railroad Retirement program and the Social Security program. Under these provisions, transfers between the Railroad Retirement program's Social Security Equivalent Benefit Account and the trust funds are made on an annual basis in order to place each trust fund in the same position in which it would have been if railroad employment had always been covered under Social Security.

The net worth of facilities and other fixed capital assets is not carried in the statements of the operations of the trust funds presented in this report. This is because the value of fixed capital assets does not represent funds available for the payment of benefits or administrative expenditures, and therefore is not considered in assessing the actuarial status of the trust funds.

V. SUMMARY OF THE OPERATIONS OF THE OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS, FISCAL YEAR 1990

A. OLD-AGE AND SURVIVORS INSURANCE TRUST FUND

A statement of the income and disbursements of the Federal Old-Age and Survivors Insurance Trust Fund in fiscal year 1990, and of the assets of the fund at the beginning and end of the fiscal year, ispresented in table 2.

TABLE 2.—STATEMENT OF OPERATIONS OF THE OASI TRUST FUND DURING FISCAL YEAR 1990
[In thousands]

Total assets, September 30, 1989		$148,318,904
Receipts:		
Contributions:		
Appropriations:		
Employment taxes	$260,408,553	
Tax credits	1,437,252	
Total appropriations	261,845,804	
Payment from general fund of the Treasury representing employee-employer contributions on deemed wage credits for military service	450,986	
Gross contributions	262,296,790	
Less payment to the general fund of the Treasury for contributions subject to refund	790,790	
Net contributions		261,506,000
Income from taxation of benefit payments:		
Withheld from benefit payments to non-resident aliens	75,658	
All other, not subject to withholding	2,848,000	
Total income from taxation of benefits		2,923,658
Reimbursement from general fund of the Treasury for costs of payments to uninsured persons who attained age 72 before 1968		33,968
Investment income and interest adjustments:		
Interest on investments	15,125,558	
Interest on transfers between the trust fund and the general fund account for the Supplemental Security Income program due to adjustment in allocation of administrative expenses	11	
Gross investment income and interest adjustments	15,125,569	
Less interest on interfund transfers due to adjustment in allocation of administrative expenses	169	
Less interest on general fund advance tax transfers	982,358	
Net investment income and interest adjustments		14,143,042
Gifts		145
Total receipts		278,606,814
Disbursements:		
Benefit payments:		
Gross benefit payments	219,736,708	
Less collected overpayments	779,786	
Less reimbursement for unnegotiated checks	9,169	
Net benefit payments		218,947,753
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		2,969,258
Administrative expenses:		
Department of Health and Human Services	1,480,767	
Department of the Treasury	84,015	
Gross administrative expenses	1,564,782	
Less reimbursements from general fund of the Treasury for costs of furnishing information on deferred vested pension benefits	1,000	
Less receipts from sales of supplies, materials, etc.	38	
Net administrative expenses		1,563,744
Total disbursements		223,480,755
Net increase in assets		55,126,059
Total assets, September 30, 1990		203,444,963

Note: Totals do not necessarily equal the sums of rounded components.

The total assets of the OASI Trust Fund amounted to $148,319 million on September 30, 1989. During fiscal year 1990, total receipts amounted to $278,607 million, and total disbursements were $223,481 million. The assets of the OASI Trust Fund thus increased by $55,126 million during the year, to a total of $203,445 million on September 30, 1990.

Included in total receipts during fiscal year 1990 were $261,846 million representing contributions appropriated to the fund (including transfers of $1,437 million from the general fund of the Treasury to offset the tax credits allowed against contributions due on earnings of self-employed persons). Another $451 million was received from the general fund of the Treasury representing payment for the contributions that would have been paid on estimated deemed wage credits for military service in 1990 if such credits had been considered to be covered wages. (Included in this payment are adjustments for revised estimates of deemed wage credits in prior years.) As an offset to gross contributions, $791 million was transferred from the trust fund to the general fund of the Treasury for the estimated amount of refunds to employees who worked for more than one employer during a year and paid contributions on wages in excess of the contribution and benefit base.

Net contributions thus amounted to $261,506 million, an increase of 5.8 percent over the amount in the preceding fiscal year. This level of growth in contribution income resulted primarily from the effects of (1) increased covered employment and earnings, (2) the increase in the OASI tax rate that became effective on January 1, 1990, and (3) the increases in the contribution and benefit base that became effective on January 1 of each year 1989 and 1990. (Table 1 in the preceding section shows the tax rates and contribution and benefit bases in effect for these years.)

Income from the taxation of benefits amounted to $2,924 million, of which 97 percent represented amounts credited to the trust fund in advance, on an estimated basis, together with an adjustment to 1984-86 transfers to account for actual experience. The remaining 3 percent of the total income from taxation of benefits represented amounts withheld from the benefits paid to non-resident aliens.

Special payments are made to uninsured persons who either attained age 72 before 1968, or who attained age 72 after 1967 and had 3 quarters of coverage for each year after 1966 and before the year of attainment of age 72. The costs associated with providing such payments to persons having fewer than 3 quarters of coverage are reimbursable from the general fund of the Treasury. Accordingly, a reimbursement of $34 million was transferred to the OASI Trust Fund in fiscal year 1990, as required by section 228 of the Social Security Act. The reimbursement reflected the costs of payments made in fiscal year 1988.

Net receipts totaling $14,143 million consisted of (1) interest earned on the investments of the trust fund; plus (2) interest on transfers between the trust fund and the general fund account for the Supplemental Security Income program due to adjustments in the allocation of administrative expenses; less (3) interest arising from the revised allocation of administrative expenses among the trust funds; less (4) reimbursement to the general fund for interest costs resulting from the advance transfer of contributions.

The remaining $145,335 of receipts consisted of gifts received under the provisions authorizing the deposit of money gifts or bequests in the trust funds.

Of the $223,481 million in total disbursements, $218,948 million was for net benefit payments, excluding collected overpayments of $780 million and the reimbursement of $9 million for unnegotiated benefit checks. The amount of net benefit payments in fiscal year 1990 represents an increase of 7.0 percent over the corresponding amount in fiscal year 1989. This increase was due primarily to (1) the automatic cost-of-living benefit increases of 4.0 percent and 4.7 percent which became effective for December 1988 and December 1989 respectively, under the automatic-adjustment provisions in section 215(i) of the Social Security Act, (2) an increase in the total number of beneficiaries, and (3) an increase in the average benefit amount resulting from the rising level of earnings.

As described in the preceding section, certain provisions of the Railroad Retirement Act coordinate the Railroad Retirement and OASDI programs and govern the financial interchanges arising from the allocation of costs between the two programs. The objective of the financial interchanges is to place the trust funds in the same financial position in which they would have been if railroad employment had always been covered under Social Security. Accordingly, the Railroad Retirement Board and the Secretary of Health and Human Services determined that a transfer of $2,798,800,000 to the Social Security Equivalent Benefit Account (SSEBA) from the OASI Trust Fund would put the trust fund in such a financial position as of September 30, 1989. A total amount of $2,969,258,000 was transferred to the SSEBA in June 1990, including interest to the date of transfer amounting to $170,458,000.

The remaining $1,564 million of disbursements from the OASI Trust Fund represented net administrative expenses. The expenses of administering the OASDI and Medicare programs are allocated and charged directly to each of the various trust funds, through which those programs are financed, on the basis of provisional estimates. Similarly, the expenses of administering the Supplemental Security Income program are also allocated and charged directly to the general fund of the Treasury on a provisional basis. Periodically, as actual experience develops and is analyzed, adjustments to the allocations of administrative expenses for prior periods are effected by interfund transfers and transfers between the OASI Trust Fund and the general fund account for the Supplemental Security Income program, with appropriate interest adjustments.

Section 1131 of the Social Security Act authorizes annual reimbursements from the general fund of the Treasury to the OASI Trust Fund for additional administrative expenses incurred as a result of furnishing information on deferred vested benefits to pension plan participants, as required by the Employee Retirement Income Security Act of 1974 (Public Law 93-406). The reimbursement in fiscal year 1990 amounted to $1,000,000.

Net administrative expenses charged to the OASI and DI Trust Funds in fiscal year 1990 totaled $2,280 million. (The operations of the DI Trust Fund are presented in detail in the next subsection.) This amount represented 0.8 percent of contribution income and 0.9 percent of expenditures for benefit payments. Corresponding percentages for each trust fund separately and for the OASDI program as a whole are shown in table 3 foreach of the last 5 years.

TABLE 3.—NET ADMINISTRATIVE EXPENSES AS A PERCENTAGE OF CONTRIBUTION INCOME AND OF BENEFIT PAYMENTS, BY TRUST FUND, FISCAL YEARS 1986-90

Fiscal year	OASI Trust Fund		DI Trust Fund		Total	
	Contribution income	Benefit payments	Contribution income	Benefit payments	Contribution income	Benefit payments
1986	0.9	0.9	3.3	3.1	1.1	1.1
1987	.8	.8	3.8	3.6	1.0	1.1
1988	.8	.9	3.7	3.8	1.0	1.2
1989	.7	.8	3.2	3.3	.9	1.1
1990	.6	.7	2.6	2.9	.8	.9

Table 4 compares past estimates of contributions and benefit payments for fiscal year 1990, as shown in the 1986-90 Annual Reports, with the corresponding actual amounts in 1990. The estimates shown are the ones based on the alternative II-B set of assumptions from each report.

A number of factors can contribute to differences between estimates and subsequent actual amounts, including actual values for key economic, demographic, and other variables that differ from assumed levels. In addition, amendments to the Social Security Act can cause actual taxes or benefits to vary from earlier estimates. The comparisons in table 4 indicate that prior estimates of OASI and DI tax contributions for 1990 were reasonably close to the actual amounts. Similarly, estimates of OASI benefit payments were generally close. The actual amount of DI benefit payments in 1990, however, was significantly above prior estimates, due to faster-than-expected growth in the number of disabled workers.

TABLE 4.—COMPARISON OF ACTUAL AND ESTIMATED OPERATIONS OF THE OASI AND DI TRUST FUNDS, FISCAL YEAR 1990
[Amounts in millions]

	Net contributions[1]		Benefit payments[2]	
	Amount	Variance from actual (percent)	Amount	Variance from actual (percent)
OASI Trust Fund				
Estimate in 1986 report	$262,708	0.5	$228,652	4.4
Estimate in 1987 report	256,948	–1.7	221,559	1.2
Estimate in 1988 report	256,569	–1.9	218,512	–.2
Estimate in 1989 report	264,792	1.3	219,267	.1
Estimate in 1990 report	263,104	.6	219,322	.2
Actual amount	261,506	—	218,948	—
DI Trust Fund				
Estimate in 1986 report	27,343	.2	23,463	–3.6
Estimate in 1987 report	26,758	–2.0	23,300	–4.2
Estimate in 1988 report	26,716	–2.1	23,744	–2.4
Estimate in 1989 report	27,598	1.1	24,005	–1.3
Estimate in 1990 report	27,453	.6	24,142	–.8
Actual amount	27,291	—	24,327	—

TABLE 4.—COMPARISON OF ACTUAL AND ESTIMATED OPERATIONS OF THE OASI AND DI TRUST FUNDS, FISCAL YEAR 1990 (Cont.)
[Amounts in millions]

	Net contributions[1]		Benefit payments[2]	
	Amount	Variance from actual (percent)	Amount	Variance from actual (percent)
OASI and DI Trust Funds, combined				
Estimate in 1986 report	$290,051	0.4	$252,114	3.6
Estimate in 1987 report	283,706	−1.8	244,859	.7
Estimate in 1988 report	283,285	−1.9	242,256	−.4
Estimate in 1989 report	292,390	1.2	243,272	(3)
Estimate in 1990 report	290,557	.6	243,464	.1
Actual amount	288,797	—	243,275	—

[1]"Actual" contributions for 1990 reflect adjustments for prior fiscal years (see preceding section for description of these adjustments). "Estimated" contributions also include such adjustments, but on an estimated basis.

[2]Includes payments, if any, for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities.

[3]Between 0 and −0.05 percent.

At the end of fiscal year 1990, about 39.7 million persons were receiving monthly benefits under the OASDI program. Of these persons, about 35.4 million and 4.2 million were receiving monthly benefits from the OASI Trust Fund and the DI Trust Fund, respectively. The estimated distribution of benefit payments (before reflecting the reimbursement for unnegotiated checks) in fiscal years 1989 and 1990, by type of beneficiary, is shown in table 5 for each trust fund separately.

TABLE 5.—ESTIMATED DISTRIBUTION OF BENEFIT PAYMENTS FROM THE OASI AND DI TRUST FUNDS, BY TYPE OF BENEFICIARY OR PAYMENT, FISCAL YEARS 1989 AND 1990
[Amounts in millions]

	Fiscal year 1989		Fiscal year 1990	
	Amount	Percentage of total	Amount	Percentage of total
Total OASDI benefit payments	$227,164	100.0	$243,257	100.0
OASI benefit payments	204,648	90.1	218,957	90.0
DI benefit payments	22,516	9.9	24,301	10.0
OASI benefit payments, total	204,648	100.0	218,957	100.0
Monthly benefits:				
Retired workers and auxiliaries	157,681	77.0	168,855	77.1
Retired workers	143,597	70.2	153,848	70.3
Wives and husbands	12,845	6.3	13,710	6.3
Children	1,239	.6	1,297	.6
Survivors of deceased workers	46,737	22.8	49,878	22.8
Aged widows and widowers	36,640	17.9	39,462	18.0
Disabled widows and widowers	455	.2	474	.2
Parents	41	(1)	39	(1)
Children	8,206	4.0	8,475	3.9
Widowed mothers and fathers caring for child beneficiaries	1,394	.7	1,427	.7
Uninsured persons generally aged 72 before 1968	23	(1)	17	(1)
Lump-sum death payments	207	.1	207	.1
DI benefit payments, total	22,516	100.0	24,301	100.0
Disabled workers	19,974	88.7	21,644	89.1
Wives and husbands	523	2.3	529	2.2
Children	2,019	9.0	2,128	8.8

[1] Less than 0.05 percent.

Note: Benefit payments shown above do not reflect the reimbursement for unnegotiated checks. Totals do not necessarily equal the sums of rounded components.

The assets of the OASI Trust Fund at the end of fiscal year 1990 totaled $203,445 million, consisting of $203,717 million in U.S. Government obligations and, as an offset, an extension of credit amounting to $272 million against securities to be redeemed within the following few days. Table 6 shows the total assets of the fund and their distribution at the end of each fiscal year 1989 and 1990.

TABLE 6.—ASSETS OF THE OASI TRUST FUND, BY TYPE, AT END OF FISCAL YEAR, 1989 AND 1990

	September 30, 1989	September 30, 1990
Obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
8.375 percent, 1990	$7,931,379,000.00	—
8.875 percent, 1991	—	$17,247,802,000.00
Bonds:		
8.375 percent, 1991	313,295,000.00	—
8.375 percent, 1992-2000	2,819,655,000.00	2,819,655,000.00
8.375 percent, 2001	2,370,396,000.00	2,370,396,000.00
8.625 percent, 1990-91	2,603,462,000.00	—
8.625 percent, 1992-2001	13,017,310,000.00	13,017,310,000.00
8.625 percent, 2002	3,672,127,000.00	3,672,127,000.00
8.75 percent, 1990-91	6,968,064,000.00	—
8.75 percent, 1992-94	10,452,096,000.00	21,299,409,000.00
8.75 percent, 1995-2000	20,904,192,000.00	42,598,812,000.00
8.75 percent, 2001-03	10,452,099,000.00	21,299,409,000.00
8.75 percent, 2004	9,396,468,000.00	13,012,238,000.00
8.75 percent, 2005	—	13,012,238,000.00
9.25 percent, 1990	2,240,308,000.00	—
9.25 percent, 1991-2000	22,403,090,000.00	22,403,090,000.00
9.25 percent, 2001-02	4,480,616,000.00	4,480,616,000.00
9.25 percent, 2003	5,912,435,000.00	5,912,435,000.00
10.375 percent, 1990	2,057,101,000.00	—
10.375 percent, 1991	1,865,345,000.00	1,865,345,000.00
10.375 percent, 1992-99	4,521,488,000.00	4,521,488,000.00
10.375 percent, 2000	2,057,101,000.00	2,057,101,000.00
10.75 percent, 1992-96	5,111,155,000.00	5,111,155,000.00
10.75 percent, 1997-98	2,044,460,000.00	2,044,460,000.00
13.75 percent, 1991	191,756,000.00	191,756,000.00
13.75 percent, 1992-96	2,348,420,000.00	2,348,420,000.00
13.75 percent, 1997-98	939,370,000.00	939,370,000.00
13.75 percent, 1999	1,491,915,000.00	1,491,915,000.00
Total investments	148,565,103,000.00	203,716,547,000.00
Undisbursed balances [1]	–246,198,668.48	–271,583,840.60
Total assets	148,318,904,331.52	203,444,963,159.40

[1] Negative figures represented extensions of credit against securities to be redeemed within the following few days.

Note: Special issues are always purchased at par value. Therefore, book value and par value are the same for each special issue, and the common value is shown above. Where the maturity years are grouped for special issues, the amount maturing in each year is the amount shown divided by the number of years.

All securities currently held by the OASI Trust Fund are special issues (i.e., securities sold only to the trust funds). These are of two types: short-term certificates of indebtedness and long-term bonds. The certificates of indebtedness are issued through the investment of receipts not required to meet current expenditures, and they mature on the next June 30 following the date of issue. Special-issue bonds, on the other hand, are normally acquired only when the certificates of indebtedness (and bonds, issued previously) mature on June 30. The amount of bonds acquired on June 30 is equal to the amount of special issues maturing, less amounts required to meet expenditures on that day.

Table 7 shows the investment transactions of the OASI and DI Trust Funds, separate and combined, in fiscal year 1990. All amounts shown in the table are at par value.

TABLE 7.—INVESTMENT TRANSACTIONS OF THE OASI AND DI TRUST FUNDS IN FISCAL YEAR 1990
[In thousands]

	OASI Trust Fund	DI Trust Fund	Total
Invested assets, September 30, 1989	$148,565,103	$8,428,340	$156,993,443
Acquisitions:			
Special Issues:			
Certificates of indebtedness	265,369,863	27,464,647	292,834,510
Bonds	63,633,022	3,211,429	66,844,451
Public Issues:			
Treasury bonds	—	—	—
Total acquisitions	329,002,885	30,676,076	359,678,961
Dispositions:			
Special issues:			
Certificates of indebtedness	256,053,440	26,677,337	282,730,777
Bonds	17,798,001	911,452	18,709,453
Public Issues:			
Treasury bonds	—	10,500	10,500
Total dispositions	273,851,441	27,599,289	301,450,730
Net increase in invested assets	55,151,444	3,076,787	58,228,231
Invested assets, September 30, 1990	203,716,547	11,505,127	215,221,674

Note: All investments are shown at par value.

The effective annual rate of interest earned by the assets of the OASI Trust Fund during the 12 months ending on June 30, 1990, was 9.4 percent, as compared to 9.8 percent earned during the 12 months ending on June 30, 1989. (This period is used, rather than the fiscal year, because interest on special issues is paid semiannually on June 30 and December 31.) The interest rate on special issues purchased by the trust fund in June 1990 was 8.75 percent, payable semiannually. Special-issue bonds with a total par value of $63,633 million were purchased in June 1990.

Section 201(d) of the Social Security Act provides that the public-debt obligations issued for purchase by the OASI and DI Trust Funds shall have maturities fixed with due regard for the needs of the funds. The usual practice in the past has been to spread the holdings of special issues, as of each June 30, so that the amounts maturing in each of the next 15 years are approximately equal. Accordingly, the amounts and maturity dates of the special-issue bonds purchased on June 30, 1990, were selected in such a way that the maturity dates of the total portfolio of special issues were spread evenly over the 15-year period 1991-2005.

B. DISABILITY INSURANCE TRUST FUND

A statement of the income and disbursements of the Federal Disability Insurance Trust Fund during fiscal year 1990, and of the assets of the fund at the beginning and end of the fiscal year, is presented in table 8.

TABLE 8.—STATEMENT OF OPERATIONS OF THE DI TRUST FUND DURING FISCAL YEAR 1990
[In thousands]

Total assets, September 30, 1989		$8,363,222
Receipts:		
Contributions:		
Appropriations:		
Employment taxes	$27,180,416	
Tax credits	137,730	
Total appropriations	27,318,146	
Payment from general fund of the Treasury representing employee-employer contributions on deemed wage credits for military service in 1990	49,041	
Gross contributions	27,367,187	
Less payment to the general fund of the Treasury for contributions subject to refund	75,790	
Net contributions		27,291,397
Income from taxation of benefit payments:		
Withheld from benefit payments to non-resident aliens	3,769	
All other, not subject to withholding	154,000	
Total income from taxation of benefits		157,769
Investment income and interest adjustments:		
Interest on investments	868,043	
Less interest on general fund advance tax transfers	99,794	
Less interest on interfund transfers due to adjustment in allocation of administrative expenses	2,111	
Net investment income and interest adjustments		766,138
Total receipts		28,215,305
Disbursements:		
Benefit payments:		
Gross benefit payments	24,407,041	
Less collected overpayments	106,482	
Less reimbursement for unnegotiated checks	6,702	
Net benefit payments		24,293,857
Transfer to the Railroad Retirement "Social Security Equivalent Benefit Account"		79,886
Payment for costs of vocational rehabilitation services for disabled beneficiaries		33,483
Administrative expenses:		
Department of Health and Human Services	689,327	
Department of the Treasury	18,034	
Demonstration projects and experiments	9,400	
Gross administrative expenses	716,761	
Less receipts from the sale of supplies, materials, etc.	90	
Net administrative expenses		716,671
Total disbursements		25,123,897
Net increase in assets		3,091,408
Total assets, September 30, 1990		11,454,630

Note: Totals do not necessarily equal the sums of rounded components.

The total assets of the DI Trust Fund amounted to $8,363 million on September 30, 1989. During fiscal year 1990, total receipts amounted to $28,215 million, and total disbursements were $25,124 million. The assets of the trust fund thus increased by $3,091 million during the year, to a total of $11,455 million on September 30, 1990.

Included in total receipts were $27,318 million representing contributions appropriated to the fund (including transfers of $138 million from

the general fund of the Treasury to offset the tax credits allowed against contributions due on earnings of self-employed persons) and $49 million in payments from the general fund of the Treasury representing contributions that would have been paid on estimated deemed wage credits for military service in 1990 if such credits had been considered to be covered wages. As an offset, $76 million was transferred from the trust fund to the general fund of the Treasury for the estimated amount of refunds to employees who worked for more than one employer during a year and paid contributions on wages in excess of the contribution and benefit base.

Net contributions amounted to $27,291 million, an increase of 15.2 percent from the amount in the preceding fiscal year. This increase is primarily attributable to the same factors, insofar as they apply to the DI program, that accounted for the change in contributions to the OASI Trust Fund. Income from the taxation of benefit payments amounted to $158 million in fiscal year 1990.

Net interest totaling $766 million consisted of interest on the investments of the fund, less interest on amounts of interfund and general-fund transfers.

Of the $25,124 million in total disbursements, $24,294 million was for net benefit payments, excluding collected overpayments of $106 million and the reimbursement of $7 million for unnegotiated benefit checks. This represents an increase of 7.9 percent over the corresponding amount of benefit payments in fiscal year 1989. This increase reflects somewhat the same factors that resulted in the net increase in benefit payments from the OASI Trust Fund.

Provisions governing the financial interchanges between the Railroad Retirement and OASDI programs are described in the preceding section. The determination made as of September 30, 1989, required that a transfer of $75,300,000 be made from the DI Trust Fund to the Social Security Equivalent Benefit Account. A total amount of $79,886,000 was transferred to the SSEBA in June 1990, including interest to the date of transfer amounting to $4,586,000.

The remaining disbursements amounted to $717 million for net administrative expenses (including $9,400,000 for demonstration projects and experiments to test the effect of alternative methods for assisting disabled beneficiaries' attempts to work), and $33 million for the costs of vocational rehabilitation services furnished to disabled-worker beneficiaries and to those children of disabled workers who were receiving benefits on the basis of disabilities that began before age 22. Reimbursement from the trust funds for the costs of such services is made only in those cases where the services contributed to the successful rehabilitation of the beneficiaries.

The assets of the DI Trust Fund at the end of fiscal year 1990 totaled $11,455 million, consisting of $11,505 million in U.S. Government obligations and, as an offset, an extension of credit amounting to $50 million against securities to be redeemed within the following few days. Table 9 shows the total assets of the fund and their distribution at the end of each fiscal year 1989 and 1990.

TABLE 9.—ASSETS OF THE DI TRUST FUND, BY TYPE, AT END OF FISCAL YEAR, 1989 AND 1990

	September 30, 1989	September 30, 1990
Investments in public-debt obligations:		
Public issues:		
Treasury bonds:		
3.5 percent, 1990	$10,500,000.00	—
3.5 percent, 1998	5,000,000.00	$5,000,000.00
4.125 percent, 1989-94	68,400,000.00	68,400,000.00
4.25 percent, 1987-92	80,800,000.00	80,800,000.00
7.5 percent, 1988-93	26,500,000.00	26,500,000.00
7.625 percent, 2002-07	10,000,000.00	10,000,000.00
8 percent, 1996-2001	26,000,000.00	26,000,000.00
8.25 percent, 2000-05	3,750,000.00	3,750,000.00
11.75 percent, 2010	30,250,000.00	30,250,000.00
Total investments in public issues at par value, as shown above	261,200,000.00	250,700,000.00
Unamortized premium or discount, net	–604,489.64	–512,794.48
Total investments in public issues at book value	260,595,510.36	250,187,205.52
Obligations sold only to the trust funds (special issues):		
Certificates of indebtedness:		
8.375 percent, 1990	130,167,000.00	—
8.875 percent, 1991	—	917,477,000.00
Bonds:		
8.375 percent, 1992	160,260,000.00	160,260,000.00
8.375 percent, 1993	201,767,000.00	201,767,000.00
8.375 percent, 1994-95	219,226,000.00	219,226,000.00
8.375 percent, 1996-2000	1,008,835,000.00	1,008,835,000.00
8.375 percent, 2001	591,226,000.00	591,226,000.00
8.75 percent, 1991	125,926,000.00	—
8.75 percent, 1992	41,507,000.00	168,980,000.00
8.75 percent, 1993	47,479,000.00	174,952,000.00
8.75 percent, 1994	339,277,000.00	466,750,000.00
8.75 percent, 1995-2000	—	764,838,000.00
8.75 percent, 2001	—	127,472,000.00
8.75 percent, 2002-03	1,182,452,000.00	1,437,396,000.00
8.75 percent, 2004	191,712,000.00	718,698,000.00
8.75 percent, 2005	—	718,698,000.00
9.25 percent, 1990	159,323,000.00	—
9.25 percent, 1991	465,300,000.00	275,169,000.00
9.75 percent, 1993	142,337,000.00	142,337,000.00
9.75 percent, 1994	142,336,000.00	142,336,000.00
9.75 percent, 1995	481,613,000.00	481,613,000.00

TABLE 9.—ASSETS OF THE DI TRUST FUND, BY TYPE, AT END OF FISCAL YEAR, 1989 AND 1990 (Cont.)

	September 30, 1989	September 30, 1990
Investments in public-debt obligations: (Cont.)		
Obligations sold only to the trust funds (special issues): (Cont.)		
Bonds: (Cont.)		
10.375 percent, 1992-93	$203,006,000.00	$203,006,000.00
10.375 percent, 1996-98	304,512,000.00	304,512,000.00
10.375 percent, 1999	152,904,000.00	152,904,000.00
10.375 percent, 2000	389,459,000.00	389,459,000.00
10.75 percent, 1992	287,956,000.00	287,956,000.00
10.75 percent, 1993	98,140,000.00	98,140,000.00
10.75 percent, 1996-98	863,865,000.00	863,865,000.00
13.75 percent, 1999	236,555,000.00	236,555,000.00
Total obligations sold only to the trust funds (special issues)	8,167,140,000.00	11,254,427,000.00
Total investments in public-debt obligations (book value[1])	8,427,735,510.36	11,504,614,205.52
Undisbursed balances[2]	-64,513,206.54	-49,984,369.01
Total assets (book value[1])	8,363,222,303.82	11,454,629,836.51

[1] Par value, plus unamortized premium or less discount outstanding.

[2] Negative figures represented extensions of credit against securities to be redeemed within the following few days.

Note: Special issues are always purchased at par value. Therefore, book value and par value are the same for each special issue, and the common value is shown above. Where the maturity years are grouped for special issues, the amount maturing in each year is the amount shown divided by the number of years.

The effective annual rate of interest earned by the assets of the DI Trust Fund during the 12 months ending on June 30, 1990 was 9.5 percent, as compared to 9.7 percent earned during the 12 months ending on June 30, 1989. The interest rate on public-debt obligations issued for purchase by the trust fund in June 1990 was 8.75 percent, payable semiannually. Special-issue bonds with a total par value of $3,211 million were purchased in June 1990.

The investment policies and practices described for the OASI Trust Fund apply as well to the investment of the assets of the DI Trust Fund.

VI. ACTUARIAL ESTIMATES

Section 201(c)(2) of the Social Security Act requires the Board of Trustees to report annually to the Congress on the operations and status of the OASI and DI Trust Funds during the preceding fiscal year and on the expected operations and status of those trust funds during the ensuing 5 fiscal years. Section 201(c) of the Act also requires that the annual report include "a statement of the actuarial status of the Trust Funds."

The required information for the fiscal year that ended September 30, 1990, is presented in the preceding section of this report. Estimates of the operations and status of the trust funds during fiscal years 1991-2000 are presented in this section. In addition, similar estimates for calendar years 1991-2000 are presented. Estimates for the first 10 years, rather than the required ensuing 5 years, are shown because of a new short-range test of the financial adequacy of the trust funds, which is described below. A description of the actuarial status of the trust funds over the next 75 years, including long-range estimates of program income and program costs over that period, is also included in this section. The methods used to estimate the short-range operations of the trust funds and the long-range actuarial status are described in Appendix A.

A number of different measures are useful in evaluating the financial status of the trust funds over the next 75 years. These measures include (1) the levels of future annual income and outgo, both in terms of dollars and relative to annual taxable earnings or payroll, including the pattern and ultimate values of such levels; (2) the annual differences between income and outgo, i.e., the annual balances, in dollars and relative to taxable payroll; (3) the size of future fund accumulations, in dollars and relative to future annual expenditures; and (4) the year in which trust fund exhaustion is estimated to occur. Estimates of all these indicators are presented in this section or in the appendices of this report. However, more attention is focused on certain elements of these measures, as described below.

In the short range, the adequacy of the trust fund level is generally measured by the "contingency fund ratio," which is defined to be the assets at the beginning of the year expressed as a percentage of the outgo during the year. (For the years 1984-90, the assets at the beginning of the year also included advance tax transfers for the month of January. Assets at the beginning of subsequent years include advance tax transfers only if such transfers are needed to enable the timely payment of benefits.) The contingency fund ratio represents the proportion of a year's outgo which can be paid with the funds available at the beginning of the year. During periods when outgo temporarily exceeds income, as might happen during an economic recession, trust fund assets are used to meet the shortfall. In the event of recurring shortfalls for an extended period, the trust funds can allow sufficient time for the development, enactment, and implementation of legislation to restore financial stability to the program.

A new test of the overall financial condition of the trust funds, described later in this section, includes a separate test of financial adequacy over the short-range projection period (the next 10 years), that is applicable to each of the OASI and DI Trust Funds, separately, as

well as to the combined funds. In order to meet this short-range test, the estimated contingency fund ratio for each of the OASI and DI programs must either (a) be at least 100 percent throughout the 10-year projection period, or (b) reach a level of at least 100 percent by the beginning of the year following the 5th year and remain at or above 100 percent throughout the remainder of the 10-year period. In addition, the fund's estimated assets at the beginning of each month of the 10-year period must be sufficient to cover that month's disbursements. This test is applied on the basis of the intermediate (alternative II) estimates. Failure to meet this test by either trust fund is an indication that solvency of the program over the next 10 years is in question and that action is needed to improve the short-range financial adequacy of the program.

Basic to the discussion of the long-range actuarial status are the concepts of "income rate" and "cost rate," each of which is expressed as a percentage of taxable payroll. The annual income rate is the ratio of income from revenues (payroll tax contributions and income from the taxation of benefits) to the OASDI taxable payroll for the year. The OASDI taxable payroll consists of the total earnings which are subject to OASDI taxes, with some relatively small adjustments. [1] Because the taxable payroll reflects these adjustments, the annual income rate can be defined to be the sum of the OASDI combined employee-employer contribution rate (or the payroll-tax rate) scheduled in the law and the rate of income from taxation of benefits (which is, in turn, expressed as a percentage of taxable payroll). As such, it excludes reimbursements from the general fund of the Treasury for the costs associated with special monthly payments to certain uninsured persons who attained age 72 before 1968 and who have fewer than 3 quarters of coverage, transfers under the interfund borrowing provisions, and net investment income.

The annual cost rate is the ratio of the cost (or outgo, expenditures, or disbursements) of the program to the taxable payroll for the year. In this context, the outgo is defined to include benefit payments, special monthly payments to certain uninsured persons who have 3 or more quarters of coverage (and whose payments are therefore not reimbursable from the general fund of the Treasury), administrative expenses, net transfers from the trust funds to the Railroad Retirement program under the financial-interchange provisions, and payments for vocational rehabilitation services for disabled beneficiaries; it excludes special monthly payments to certain uninsured persons whose payments are reimbursable from the general fund of the Treasury (as described above), and transfers under the interfund borrowing provisions. For any year, the income rate minus the cost rate is referred to as the "balance" for the year. (In this context, the term "balance" does not represent the assets of the trust funds, which are sometimes referred to as the "balance" in the trust funds.)

The long-range actuarial status of the trust funds has generally been summarized by the calculation of the "actuarial balance." The actuarial

[1] Adjustments are made to include, after 1982, deemed wage credits based on military service, and to reflect the lower effective tax rates (as compared to the combined employee-employer rate) which apply to multiple-employer "excess wages," and which did apply, before 1984, to net earnings from self-employment and, before 1988, to income from tips.

balance for a specified projection period is defined as the difference between the summarized income rate and the summarized cost rate over that period. The summarized income rate over a period of years is equal to the ratio of (a) the sum of the trust fund balance at the beginning of the period plus the present value of the total income (excluding interest earnings) during the period, to (b) the present value of the taxable payroll for the years in the period. Beginning with this year's report, the summarized cost rate includes the cost of reaching and maintaining a "target" trust fund level, or contingency fund ratio. Because a trust fund level of about 1 year's expenditures is considered to be an adequate reserve for unforeseen contingencies, the targeted contingency fund ratio used in determining summarized cost rates is 100 percent of annual expenditures. Accordingly, the summarized cost rate is equal to the ratio of (a) the sum of the present value of the outgo during the period plus the present value of the targeted ending trust fund level, to (b) the present value of the taxable payroll during the projection period.

The present-value calculations take account of the effect of interest on future income and outgo. In calculating the present value of future income, for example, the income in each year of the projection period is discounted to the beginning of the period using the interest rate assumed for calculating the interest earnings of the trust funds during the period. Thus, the calculations of the summarized income and cost rates are consistent with the estimates of trust fund operations over the projection period.

If the program is in exact actuarial balance for a particular period (that is, if the actuarial balance is zero), then the present value of estimated future income for all years in the period, plus the beginning trust fund balance, is exactly equal to the present value of estimated future expenditures for all years in the period, plus trust fund assets at end of the period in the amount of the next year's outgo. A negative actuarial balance indicates that future income plus the beginning trust fund balance are not sufficient to meet both of these objectives. A positive actuarial balance indicates that in addition to covering all aggregate expenditures in the period, the estimated ending trust fund level is more than the targeted level of 1 year's outgo.

The size of the actuarial balance represents a measure of the program's financial adequacy for the period in question. The actuarial balance can also be interpreted as the amount of change which, if made to each of the combined employee-employer contribution rates scheduled under present law for the next 75 years, would bring the program into exact actuarial balance. Of course, any set of changes in contribution rates, or in benefit costs, that has an equivalent effect on the actuarial balance would also bring the program into exact actuarial balance.

Beginning with this year's report, a new test of the overall financial adequacy of the trust funds is included in the annual report. The new test is designed to reveal problems occurring at any time during the next 75 years. In addition to the short-range test described above, the new test includes a separate long-range test for a set of valuation periods beginning with the first 11 years and continuing through the first 12 years, the first 13 years, etc., up to and including the full 75-year

projection period. Previous annual reports included a long-range test of close actuarial balance that was based only on the full 75-year valuation period. However, it was recognized that such a limited test, by itself, was not always sufficient to reveal the timing and extent of temporary problems that could occur within the overall projection period.

Under the new long-range test, summarized income rates and cost rates are calculated for each of the 65 valuation periods in the full 75-year long-range projection period. The first of these periods consists of the next 11 years. Each succeeding period becomes longer by 1 year, culminating with the period consisting of the next 75 years. The long-range test is met if, for each of the 65 time periods, the actuarial balance is not less than zero or is negative by, at most, a specified percentage of the summarized cost rate for the same time period. The percentage allowed for a negative actuarial balance is 5 percent for the full 75-year period and is reduced uniformly for shorter periods, approaching zero as the duration of the time periods approaches the first 10 years. The criterion for meeting the test is less stringent for the longer periods in recognition of the greater uncertainty associated with estimates for more distant years.

When a negative actuarial balance in excess of the allowable percentage of the summarized cost rate is projected for one or more of the 65 separate valuation periods, the program fails the long-range portion of the test, and the program is said to be out of close actuarial balance. Being out of close actuarial balance indicates that the program is expected to experience financial problems in the future and that ways of improving the financial status of the program should be considered. The degree of urgency for any needed corrective action is indicated by the duration of the first period for which the estimated actuarial balance is less than the minimum allowable balance, expressed as a percentage of the summarized cost rate. However, it is recognized that necessary changes in program financing or benefit provisions should not be put off until the last possible moment if future beneficiaries and workers are to be able to effectively plan for their retirement.

It was noted earlier in this section that in addition to the measures used in the test of the overall financial condition of the program, other financial measures are also presented in this report. All of these measures are important factors in arriving at a full understanding of the financial position of the OASDI program.

A. ECONOMIC AND DEMOGRAPHIC ASSUMPTIONS

The future income and outgo of the OASDI program depend on many economic and demographic factors, including gross national product, labor force, unemployment, average earnings, productivity, inflation, fertility, mortality, net immigration, marriage, divorce, retirement patterns, and disability incidence and termination. The income will depend on how these factors affect the size and composition of the working population and the general level of earnings. Similarly, the outgo will depend on how these factors affect the size and composition of the beneficiary population and the general level of benefits.

Because precise prediction of these various factors is impossible, estimates are shown in this report on the basis of three sets of assumptions, designated as alternatives I, II, and III. It may be noted that recent annual reports, through the 1990 report, included four alternative sets of assumptions, including two intermediate alternatives, II-A and II-B. Beginning with this report, a single intermediate set, alternative II, is shown, representing the Board's best estimate of the future course of the population and the economy. In terms of the net effect on the status of the OASDI program, alternative I is the more optimistic, and alternative III is the more pessimistic of the plausible economic and demographic conditions.

Although these sets of economic and demographic assumptions have been developed using the best available information, the resulting estimates should be interpreted with care. In particular, they are not intended to be exact predictions of the future status of the OASDI program, but rather, they are intended to be indicators of the trend and range of future income and outgo, under a variety of plausible economic and demographic conditions.

Economic assumptions

The principal economic assumptions for the three alternatives are summarized in table 10.

TABLE 10.—SELECTED ECONOMIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1960-2065

Calendar year	Average annual percentage increase in—			Real-wage differential[3] (percent)	Average annual interest rate[4] (percent)	Average annual unemployment rate[5] (percent)	Average annual percentage increase in labor force[6]
	Real GNP[1]	Average annual wage in covered employment	Consumer Price Index[2]				
Past experience:							
1960-64	3.9	3.4	1.3	2.1	3.7	5.7	1.3
1965-69	4.4	5.4	3.4	2.0	5.2	3.8	2.1
1970-74	2.4	6.3	6.1	.2	6.7	5.4	2.3
1975	-1.3	6.7	9.1	-2.4	7.4	8.5	1.9
1976	4.9	8.7	5.7	3.0	7.1	7.7	2.4
1977	4.7	7.3	6.5	.8	7.1	7.0	2.9
1978	5.3	9.7	7.7	2.0	8.2	6.1	3.2
1979	2.5	9.8	11.4	-1.6	9.1	5.8	2.6
1980	-.2	9.0	13.4	-4.4	11.0	7.2	1.9
1981	1.9	9.7	10.3	-.6	13.3	7.6	1.6
1982	-2.5	6.5	6.0	.5	12.8	9.7	1.4
1983	3.6	5.0	3.0	2.0	11.0	9.6	1.2
1984	6.8	7.2	3.5	3.7	12.4	7.5	1.8
1985	3.4	4.3	3.5	.8	10.8	7.2	1.7
1986	2.7	4.3	1.6	2.7	8.0	7.0	2.0
1987	3.4	5.0	3.6	1.4	8.4	6.2	1.7
1988	4.5	5.1	4.0	1.1	8.8	5.5	1.4
1989	2.5	3.5	4.8	-1.3	8.7	5.3	1.8
1990	.9	4.9	5.3	-.4	8.6	5.5	.7

TABLE 10.—SELECTED ECONOMIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1960-2065 (Cont.)

Calendar year	Average annual percentage increase in— Real GNP[1]	Average annual wage in covered employment	Consumer Price Index[2]	Real-wage differential[3] (percent)	Average annual interest rate[4] (percent)	Average annual unemployment rate[5] (percent)	Average annual percentage increase in labor force[6]
Alternative I:							
1991	0.6	3.7	4.4	-0.7	8.0	6.5	0.9
1992	3.6	4.9	2.8	2.1	7.3	6.1	1.0
1993	3.5	5.2	3.1	2.1	6.6	5.7	1.2
1994	3.3	5.0	3.0	2.0	6.1	5.4	1.2
1995	3.1	5.1	3.0	2.1	6.1	5.2	1.1
1996	3.0	5.1	3.0	2.1	6.1	5.0	1.1
1997	2.9	5.1	3.0	2.1	6.1	4.9	1.1
1998	2.8	5.0	3.0	2.0	6.1	4.9	1.0
1999	2.8	5.1	3.0	2.1	6.1	4.8	1.0
2000	2.8	5.1	3.0	2.1	6.1	4.8	1.0
2005	2.6	4.7	3.0	1.7	6.0	5.0	1.0
2010 & later	[8]2.3	4.7	3.0	1.7	6.0	5.0	[8] .6
Alternative II:							
1991	-.1	3.7	4.9	-1.2	8.0	6.6	.8
1992	3.1	5.5	4.0	1.5	7.6	6.3	.9
1993	2.7	5.5	4.0	1.5	7.2	6.0	1.1
1994	2.3	5.3	4.0	1.3	6.8	5.9	1.0
1995	2.2	5.5	4.0	1.5	6.8	5.8	.9
1996	2.2	5.4	4.0	1.4	6.7	5.8	.9
1997	2.2	5.4	4.0	1.4	6.6	5.8	.9
1998	2.2	5.3	4.0	1.3	6.5	5.8	.9
1999	2.2	5.3	4.0	1.3	6.5	5.8	.9
2000	2.2	5.3	4.0	1.3	6.4	5.7	.8
2005	1.9	5.1	4.0	1.1	6.3	6.0	.7
2010 & later	[8]1.8	5.1	4.0	1.1	6.3	6.0	[8] .5
Alternative III:							
1991	-2.3	2.5	6.1	-3.6	8.3	7.0	.6
1992	1.2	6.2	5.6	.5	8.5	7.5	.5
1993	2.6	7.5	6.4	1.1	8.7	7.1	.9
1994	.7	6.1	6.2	-.1	8.6	7.0	.9
1995	-.7	4.1	4.8	-.7	8.2	8.0	.6
1996	3.3	6.8	5.0	1.8	7.6	7.4	.8
1997	2.4	6.2	5.0	1.2	7.0	7.0	1.0
1998	1.7	5.8	5.0	.8	6.9	6.8	.9
1999	1.6	5.8	5.0	.8	6.8	6.8	.8
2000	1.6	5.8	5.0	.8	6.7	6.8	.7
2005	1.3	5.6	5.0	.6	6.5	7.0	.5
2010 & later	[8]1.3	5.6	5.0	.6	6.5	7.0	[8] .4

[1]The real GNP (gross national product) is the value of total output of goods and services, expressed in 1982 dollars.

[2]The Consumer Price Index is the annual average value for the calendar year of the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

[3]The real-wage differential is the difference between the percentage increases, before rounding, in (1) the average annual wage in covered employment, and (2) the average annual Consumer Price Index.

[4]The average annual interest rate is the average of the nominal interest rates, which, in practice, are compounded semiannually, for special public-debt obligations issuable to the trust funds in each of the 12 months of the year.

[5]Through 2000, the rates shown are unadjusted civilian unemployment rates. After 2000, the rates are total rates (including military personnel), adjusted by age and sex based on the estimated total labor force on July 1, 1990.

[6]Labor force is the total for the U.S. (including military personnel) and reflects the average of the monthly numbers of persons in the labor force for each year.

[7]Preliminary.

[8]This value is for 2010. The annual percentage increase in labor force and real GNP is assumed to continue to change after 2010 for each alternative to reflect the dependence of labor force growth on the size and age-sex distribution of the population. The increases in real GNP for 2065 are 2.4, 1.3, and 0.3 percent for alternatives I, II, and III, respectively. The changes in total labor force for 2065 are 0.6, 0.1, and -0.5 percent for alternatives I, II, and III, respectively.

Alternatives I, II, and III present a range of generally consistent sets of economic assumptions which have been designed to encompass most of the possibilities that might be encountered. Alternative I presents the most optimistic outlook, with sustained robust economic growth and low inflation following the mild recession, which is assumed to have ended early in 1991. The intermediate set of assumptions—alternative II—represents the current consensus view of moderate growth and inflation following the mild recession, which is assumed to end by the middle of 1991. Alternative III is a relatively pessimistic forecast in which the

economy experiences two recessions during the next 10 years. The total declines in real GNP for the projected recessions in alternative III are slightly less than those of recent recessions; however, the intervening recoveries are assumed to be substantially weaker than those experienced in the recent past. This scenario presents an assessment of the combined effects on the OASDI program of business cycles and generally weak economic growth.

The period of sustained real economic growth, which began in the fourth quarter of 1982, ended with the recession that started with the fourth quarter of 1990. After total declines in real GNP of 0.7 percent and 0.9 percent through the first quarter of 1991 for alternatives I and II, respectively, a return to steady economic growth is assumed through the end of the decade. Real growth is assumed to be stronger for alternative I than for alternative II.

For alternative III, the recession that began in 1990 is assumed to result in a total decline in real GNP of 3.7 percent through the fourth quarter of 1991. After 9 quarters of recovery, a second recession, with a total decline in real GNP of 3.0 percent, is assumed to begin in the second quarter of 1994, lasting through the first quarter of 1995.

After the year 2000, the projected rates of growth in real GNP, for all three alternatives, are determined by the assumed rates of growth in employment, average hours worked, and labor productivity.

Assumed values for the unemployment rates reflect the pattern of real GNP growth for each alternative. For alternatives I and II, the unemployment rate is assumed to move gradually toward its ultimate average level after 1991. For alternative III, the unemployment rate is assumed to reach its ultimate average level after the recovery that is assumed to follow the second recession.

Unemployment rates through 2000 are in the most commonly cited form, the civilian rate, which describes the differences between aggregate civilian labor force and aggregate civilian employment. For years after 2000, however, total rates are presented. These include the military (which reduces the rate by about 0.1 percent relative to the civilian rate) and are age-sex adjusted to the 1990 labor force. Such total rates better represent the total population covered by the OASDI program and adjust for the changing age-sex distribution of the labor force, which can obscure the comparison of unemployment rates over different time periods.

For the intermediate alternative II projection, each of the other economic parameters is selected reflecting what is believed to be the most likely future course of the economy, consistent with the assumed pattern of real GNP growth. The average annual unemployment rate is assumed to rise from the level experienced for 1990, 5.5 percent, to 6.6 percent for 1991 as a result of the recession. After 1991 the unemployment rate is assumed to decline gradually reaching 5.8 percent in 1995, which is about equivalent to the assumed ultimate total unemployment rate (age-sex adjusted to the 1990 labor force) of 6.0 percent. Thereafter, the total unemployment rate remains at about 6.0 percent while the non-age-sex-adjusted rate declines slightly, reflecting the changing age-sex distribution of the labor force. The annual rate of increase in the average

wage in covered employment is assumed to decline from the estimated 4.9-percent increase in 1990 to 3.7 percent for 1991, reflecting the economic recession. After 1991, the average wage grows at 5.5 percent for 2 years before gradually declining to the ultimate assumed rate of 5.1 percent. Wage growth rates are higher than the ultimate assumption until after the year 2000 reflecting the gradual recovery from the 1990-91 recession and the increasing coverage of Federal civilian employees, who have higher earnings than the average employee in the U.S. The annual rate of increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) is assumed to decline steadily from 5.3 percent in 1990 to an ultimate rate of 4.0 percent in 1992. The CPI-W (hereinafter denoted as "CPI") is used to determine automatic cost-of-living benefit increases under the OASDI program. The real-wage differential (i.e., the difference between the annual rates of increase in the average wage in covered employment and in the CPI) is assumed to be -1.2 percent for 1991 following differentials of -1.3 percent and -0.4 percent for 1989 and 1990, respectively. After the recession of 1990-91, the real-wage differential is projected to be 1.5 percent for 2 years and then to decline gradually toward the ultimate assumed differential of 1.1 percent. The average annual interest rate is assumed to reach its ultimate value of 6.3 percent by 2005. The annual rate of growth in total labor force is projected to increase from 0.7 percent estimated for 1990 to 1.1 percent for 1993. After 1994 the labor force is projected to increase at less than 1.0 percent per year, reflecting the slower growth in the working-age population than was experienced through the 1980s and early 1990s.

For alternatives I and III, respectively, values for each of the economic parameters are selected which, in general, result in a more optimistic and a more pessimistic future financial status of the program.

Demographic assumptions

The principal demographic assumptions for the three alternatives are shown in table 11.

For the intermediate alternative II, the assumed ultimate total fertility rate of 1.9 children per woman is attained in 2015 after a gradual decline from the estimated 1990 level of 2.05 children per woman. The age-sex-adjusted death rate is assumed to decrease gradually during the entire projection period, with a reduction of 35 percent from the 1989 level by 2065. The resulting life expectancies at birth in 2065 are 77.5 years for men and 83.9 years for women, compared to 71.8 and 78.6 years, respectively, in 1989. Life expectancies at age 65 in 2065 are projected to be 18.5 years for men and 22.4 years for women, compared to 15.2 and 18.9 years, respectively, in 1989. The projected death rates reflect the effects of assumed cases of Acquired Immunodeficiency Syndrome (AIDS), using projections through 1992 prepared by the Centers for Disease Control (CDC) as a starting point. Total net immigration is assumed to be 750,000 persons per year beginning in 1992. The assumed level of net annual immigration is the combination of 550,000 net legal immigrants per year and 200,000 net other-than-legal immigrants per year. The assumed net legal immigration is 150,000 higher than in last year's report for years after 1990 as a result of enactment of the Immigration Act of 1990.

For alternative I, the total fertility rate is assumed to rise to an ultimate level of 2.2 children per woman for 2015. The age-sex-adjusted death rate is assumed to decrease more slowly than for alternative II, with the reduction from the 1989 level being 19 percent by 2065. The resulting life expectancies at birth in 2065 are 75.2 years for men and 81.0 years for women, while at age 65 they are 16.3 and 20.0 years, respectively. Total net immigration is assumed to be 1,000,000 persons per year. The assumed level of net annual immigration is the combination of 650,000 net legal immigrants per year and 350,000 net other-than-legal immigrants per year.

For alternative III, the total fertility rate is assumed to decrease to an ultimate level of 1.6 by 2015. The age-sex-adjusted death rate is assumed to decrease more rapidly than for alternative II, with the reduction from the 1989 level being 51 percent by 2065. The resulting life expectancies at birth in 2065 are 80.9 years for men and 87.8 years for women, while at age 65 they are 21.5 and 25.6 years, respectively. Total net immigration is assumed to be 600,000 persons per year, the combination of 500,000 net legal immigrants per year and 100,000 net other-than-legal immigrants per year.

TABLE 11.—SELECTED DEMOGRAPHIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1940-2065

Calendar year	Total fertility rate[1]	Age-sex-adjusted death rate[2] (per 100,000)	Life expectancy[3]			
			At birth		At age 65	
			Male	Female	Male	Female
Past experience:						
1940	2.23	1,532.8	61.4	65.7	11.9	13.4
1945	2.42	1,366.4	62.9	68.4	12.6	14.4
1950	3.03	1,225.3	65.6	71.1	12.8	15.1
1955	3.50	1,134.2	66.7	72.8	13.1	15.6
1960	3.61	1,128.6	66.7	73.2	12.9	15.9
1965	2.88	1,103.6	66.8	73.8	12.9	16.3
1970	2.43	1,041.8	67.1	74.9	13.1	17.1
1975	1.77	934.0	68.7	76.6	13.7	18.0
1976	1.74	923.2	69.1	76.8	13.7	18.1
1977	1.79	898.0	69.4	77.2	13.9	18.3
1978	1.76	892.4	69.6	77.2	13.9	18.3
1979	1.82	864.2	70.0	77.7	14.2	18.6
1980	1.85	878.0	69.9	77.5	14.0	18.4
1981	1.83	853.4	70.4	77.9	14.2	18.6
1982	1.83	827.8	70.8	78.2	14.5	18.8
1983	1.81	835.0	70.9	78.1	14.3	18.6
1984	1.80	828.2	71.1	78.2	14.4	18.7
1985	1.84	830.0	71.1	78.2	14.4	18.6
1986	1.84	822.8	71.2	78.3	14.5	18.7
1987	1.87	813.9	71.3	78.4	14.6	18.7
1988[4]	1.93	822.6	71.2	78.4	14.6	18.7
1989[4]	2.00	790.1	71.8	78.6	15.2	18.9
Alternative I:						
1990	2.05	784.5	72.0	78.7	15.2	18.9
1995	2.09	765.3	72.7	78.9	15.3	18.9
2000	2.12	753.6	73.0	79.1	15.3	18.9
2005	2.15	743.3	73.3	79.3	15.3	18.9
2010	2.17	732.9	73.5	79.4	15.4	19.0
2015	2.20	723.1	73.7	79.6	15.5	19.0
2020	2.20	713.7	73.9	79.7	15.6	19.1
2025	2.20	704.6	74.0	79.9	15.7	19.2
2030	2.20	695.8	74.2	80.1	15.7	19.3
2035	2.20	687.2	74.4	80.2	15.8	19.4
2040	2.20	678.9	74.5	80.3	15.9	19.5
2045	2.20	670.8	74.7	80.5	16.0	19.6
2050	2.20	663.0	74.8	80.6	16.1	19.7
2055	2.20	655.4	75.0	80.7	16.1	19.8
2060	2.20	648.0	75.1	80.9	16.2	19.9
2065	2.20	640.8	75.2	81.0	16.3	20.0
Alternative II:						
1990	2.05	791.7	71.9	78.8	15.3	19.0
1995	2.03	754.2	72.3	79.4	15.6	19.3
2000	2.00	722.8	72.9	79.9	15.9	19.6
2005	1.97	690.7	73.8	80.4	16.1	19.8

TABLE 11.—SELECTED DEMOGRAPHIC ASSUMPTIONS BY ALTERNATIVE, CALENDAR YEARS 1940-2065 (Cont.)

Calendar year	Total fertility rate[1]	Age-sex-adjusted death rate[2] (per 100,000)	Life expectancy[3] At birth		At age 65	
			Male	Female	Male	Female
Alternative II: (Cont.)						
2010	1.93	667.8	74.3	80.8	16.3	20.0
2015	1.90	649.8	74.7	81.1	16.5	20.2
2020	1.90	633.2	75.0	81.4	16.7	20.4
2025	1.90	617.2	75.3	81.7	16.9	20.7
2030	1.90	601.9	75.6	82.0	17.1	20.9
2035	1.90	587.3	75.9	82.2	17.3	21.1
2040	1.90	573.2	76.2	82.5	17.5	21.3
2045	1.90	559.8	76.4	82.8	17.7	21.5
2050	1.90	546.8	76.7	83.1	17.9	21.7
2055	1.90	534.4	77.0	83.4	18.1	22.0
2060	1.90	522.5	77.3	83.6	18.3	22.2
2065	1.90	511.0	77.5	83.9	18.5	22.4
Alternative III:						
1990	2.05	800.4	72.0	78.9	15.3	19.0
1995	1.96	758.6	72.3	79.9	15.9	19.7
2000	1.87	738.8	72.0	80.5	16.4	20.2
2005	1.78	683.7	73.3	81.3	16.8	20.7
2010	1.69	623.0	75.1	82.1	17.2	21.1
2015	1.60	586.5	76.1	82.7	17.6	21.5
2020	1.60	560.2	76.7	83.3	18.0	21.9
2025	1.60	537.1	77.1	83.8	18.4	22.3
2030	1.60	515.4	77.5	84.3	18.8	22.7
2035	1.60	494.6	78.0	84.8	19.1	23.1
2040	1.60	474.7	78.5	85.3	19.5	23.5
2045	1.60	455.6	79.0	85.9	19.9	24.0
2050	1.60	437.4	79.5	86.4	20.3	24.4
2055	1.60	420.1	79.9	86.9	20.7	24.8
2060	1.60	403.6	80.4	87.4	21.1	25.2
2065	1.60	388.0	80.9	87.8	21.5	25.6

[1]The total fertility rate for any year is the average number of children who would be born to a woman in her lifetime if she were to experience the birth rates by age observed in, or assumed for, the selected year, and if she were to survive the entire child-bearing period. The ultimate total fertility rate is assumed to be reached in 2015.

[2]The age-sex-adjusted death rate is the crude rate that would occur in the enumerated total population as of April 1, 1980, if that population were to experience the death rates by age and sex observed in, or assumed for, the selected year.

[3]The life expectancy for any year is the average number of years of life remaining for a person if that person were to experience the death rates by age observed in, or assumed for, the selected year.

[4]Estimated.

The values assumed after the early years for both the economic and the demographic factors are intended to represent the average experience and are not intended to be exact predictions of year-by-year values. Actual future values will likely exhibit fluctuations or cyclical patterns, as in the past.

In addition to the assumptions discussed above, many other factors are necessary to prepare the estimates presented in this report. Appendix A includes a discussion of some of those factors.

The ultimate values presented in tables 10 and 11 reflect significant changes from the values used for the 1990 Annual Report. Lower assumed real growth in average wages, productivity, and GNP, along with increased rates of real interest reflect a reassessment of past data and future prospects. The ultimate annual assumptions in alternative II, for example, include a real-wage differential of 1.1 percent per year and a real interest rate of 2.3 percent per year instead of 1.3 percent and 2.0 percent, respectively, which were assumed for alternative II-B in the 1990 report. Increased immigration reflects legislation enacted since the last report. The ultimate net immigration rate assumed under alternative II is 750,000 per year, compared to 600,000 per year for alternatives II-A and II-B in the 1990 report. In addition, the percentage of all U.S. workers that is covered under OASDI is higher reflecting legislation

since the last report and the ultimate percentage of covered earnings that is taxable is projected to be significantly higher for this year's report reflecting analysis based on recent data. The ultimate percentage taxable is assumed to be 87 percent under alternative II, which is about one percentage point higher than under alternative II-B in the 1990 report. These and other changes are discussed later in this section.

B. AUTOMATIC ADJUSTMENTS

Under the automatic-adjustment provisions of the law, benefits generally are increased once a year to reflect increases in the cost of living. These automatic increases may be modified under certain circumstances, as explained below. For persons becoming eligible for benefits in 1979 and later, the increases generally begin with the year in which the worker reaches age 62, or becomes disabled or dies, if earlier. An automatic cost-of-living benefit increase of 5.4 percent, effective for December 1990, was announced in October 1990, as described in Appendix C. The automatic cost-of-living benefit increase for any year is normally based on the change in the CPI from the third quarter of the previous year through the third quarter of the current year. [1]

The law provides for an automatic increase in the contribution and benefit base, based on the increase in average wages, for the year following a year in which an automatic benefit increase becomes effective. Based on a special transition provision of the "Omnibus Budget Reconciliation Act of 1989", however, the contribution and benefit base for 1991 was established at $53,400.

The exempt amounts under the retirement earnings test are also increased automatically by the increase in average wages, following an automatic benefit increase. An automatic increase in the exempt amount for beneficiaries at ages 65 through 69—from $9,360 in 1990 to $9,720 in 1991—was announced in October 1990. Similarly, an automatic increase was announced in the exempt amount for beneficiaries under age 65—from $6,840 in 1990 to $7,080 in 1991. Appendix C describes the aforementioned adjustments, as well as the determinations of the following amounts:

1. The amount of earnings a worker must have in 1991 to be credited with a quarter of coverage;
2. The dollar amounts (or "bend points") in the formulas used to compute benefits payable on the earnings of workers who first become eligible for retirement or disability benefits, or who die before becoming eligible for such benefits, in 1991; and

---

[1] If the combined assets of the OASI and DI Trust Funds, as a percentage of annual expenditures, are below a specified level, the automatic benefit increase is limited to the lesser of the increases in wages or prices. This specified level was 15 percent with respect to benefit increases for December of each year 1984-88, and is 20 percent for all subsequent years. This "stabilizer" provision has not affected any benefit increases since its enactment in 1983, and it would not affect any specific future increases shown in this report under any of the three sets of assumptions. Under alternatives II and III, however, the combined trust funds eventually fall below the 20-percent threshold shortly before exhaustion in the next century. Thus, at that time, the stabilizer provision could affect a benefit increase if average wages are then increasing at a slower pace than prices.

3. The average of total wages reported for calendar year 1989, to be used for indexing earnings of workers who first become eligible for benefits, or who die before such eligibility, in 1991 or later.

An historical summary of the Social Security program amounts determined under the automatic-adjustment provisions, and the average-wage series used for indexing earnings, are shown in Appendix D. Estimates of the corresponding amounts through 2000 are also shown in Appendix D.

The three alternative sets of economic assumptions described in the previous subsection result in the cost-of-living benefit increases and contribution and benefit bases shown in table 12 for each year through 2000. (The actual benefit increase for 1990 and the actual contribution and benefit bases for 1990 and 1991 are also shown as a basis for comparison.)

TABLE 12.—COST-OF-LIVING BENEFIT INCREASES AND CONTRIBUTION AND BENEFIT BASES, BY ALTERNATIVE, CALENDAR YEARS 1990-2000

Calendar year	Cost-of-living benefit increase[1] (percent) based on alternative—			Contribution and benefit base[2] based on alternative—		
	I	II	III	I	II	III
1990	5.4	5.4	5.4	$51,300	$51,300	$51,300
1991	4.2	4.8	6.4	53,400	53,400	53,400
1992	2.8	4.0	5.5	56,100	55,800	55,500
1993	3.2	4.0	6.5	58,200	57,900	57,000
1994	3.0	4.0	6.0	60,900	60,900	60,300
1995	3.0	4.0	4.7	63,900	64,200	64,800
1996	3.0	4.0	5.0	66,900	67,500	68,700
1997	3.0	4.0	5.0	70,200	71,100	71,400
1998	3.0	4.0	5.0	73,800	74,700	76,200
1999	3.0	4.0	5.0	77,400	78,600	80,700
2000	3.0	4.0	5.0	81,300	82,800	85,200

[1]Effective with benefits for December of the year shown.

[2]Effective on January 1 of the year shown.

C. ESTIMATED OPERATIONS AND STATUS OF THE TRUST FUNDS DURING THE PERIOD OCTOBER 1, 1990, TO DECEMBER 31, 2000

This subsection presents estimates of the operations and status of the OASI and DI Trust Funds during the period October 1, 1990, to December 31, 2000, based on the assumptions described in the preceding two subsections. No changes are assumed to occur in the present statutory provisions and regulations under which the OASDI program operates. [1] The presentation of estimates for 10 years in this subsection represents a change from the practice in past annual reports of showing estimates for 5 years. This change is necessitated by the new test of short-range financial adequacy which has been adopted for use beginning with this annual report (as noted previously). The inclusion of additional years is also intended to facilitate the analysis of the near-term financial outlook for the OASDI program.

These estimates indicate that the assets of the OASI Trust Fund would continue to increase rapidly throughout the next 10 years under each of the three sets of assumptions shown. In contrast, DI assets are expected to increase rapidly in 1991-2000 only under the relatively favorable conditions assumed in alternative I. Based on the intermediate assumptions (alternative II), DI assets would be sufficient to permit the timely payment of benefits throughout the 10-year period, but would not increase significantly relative to annual expenditures. Under the adverse conditions assumed in alternative III, DI assets would cease growing by the end of 1992, and would be depleted early in 1997.

As will be shown later in this subsection, the OASI Trust Fund meets the requirements of the new test of short-range financial adequacy, but the DI Trust Fund fails to do so. The OASI and DI Trust Funds, if combined, would pass the test. The failure of the DI Trust Fund to meet the requirements of the test is an indication that the financing of the DI program needs to be strengthened. As will be seen, the financing of the DI program could be strengthened by reallocating contribution rates between OASI and DI without causing the OASI Trust Fund to fail the test.

The estimated operations of the OASI Trust Fund shown in this report under alternatives I, II, and III are significantly less favorable than the corresponding estimates in the 1990 Annual Report. This change is primarily attributable to the slowdown in the economy during 1990 and early 1991, together with somewhat higher inflation in 1990 than had been anticipated. These adverse economic effects were offset, to a relatively small degree, by another development that was more favorable than assumed in last year's report. Recent data indicate that the proportion of covered earnings that is taxable (i.e., the proportion that is below the contribution and benefit base) increased somewhat in

[1] The estimates shown in this subsection reflect 12 months of benefit payments in each year of the short-range projection period. In practice, 13 benefit payments can be made in certain years, with the next year having only 11 payments. This situation can result from the statutory requirement that benefit checks be delivered early when the normal check delivery date is a Saturday, Sunday, or legal public holiday. For example, the benefit checks for December 1992 would normally be delivered on January 3, 1993; however, because that day will be a Sunday, and the two preceding days a Saturday and a holiday, the checks will actually be delivered on December 31, 1992. The annual benefit figures are shown as if those benefit checks will be delivered on the usual date.

1989, thereby offsetting a portion of the decline experienced in prior years. Overall, however, estimated tax income in 1991 and later is substantially lower than the estimates in the 1990 Annual Report, while estimated OASI benefit payments are somewhat higher. Despite this less favorable outlook, OASI assets would still increase rapidly during 1991-2000 under each of the alternative sets of assumptions, as noted above.

For the DI Trust Fund during 1991-2000, the estimated operations in this report under all three alternatives are also significantly less favorable than the corresponding estimates from the 1990 report. In addition to the reasons cited above, the DI estimates are adversely affected by a more rapid increase in the number of disabled worker beneficiaries in 1990 than was anticipated in last year's report.

OASI Trust Fund operations

Estimates of the operations and status of the OASI Trust Fund during calendar years 1991-2000 are shown in table 13 based on each of the three alternative sets of assumptions. Actual operations for calendar year 1990 are also shown in the table.

The increases in estimated income shown in table 13 on the basis of each set of assumptions reflect increases in estimated taxable earnings. For each alternative, employment and earnings are assumed to increase in every year through the year 2000 (except that employment declines temporarily during each of the economic recessions assumed under alternative III). The number of persons with taxable earnings under the OASDI program is expected to increase on the basis of alternatives I, II, and III, from 133 million during calendar year 1990 to about 149 million, 145 million, and 142 million, respectively, by 2000. The total annual amount of taxable earnings is expected to increase from about $2,378 billion in 1990 to $4,282 billion, $4,238 billion, and $4,271 billion, in 2000, on the basis of alternatives I, II, and III, respectively. (In 1990 dollars—taking account of assumed increases in the CPI from 1990 to 2000 based on each alternative—the estimated amounts of taxable earnings in 2000 are $3,144 billion, $2,840 billion, and $2,522 billion, on the basis of alternatives I, II, and III, respectively.) These increases are due in part to the increases in the contribution and benefit base in 1991-2000 under the automatic-adjustment provisions. The increases in taxable earnings are also due to (1) projected increases in employment levels and average earnings in covered employment, and (2) various provisions enacted in 1983-90, including the mandatory coverage of all newly hired Federal civilian employees, the voluntary coverage of certain Federal employees who were not previously covered, and the mandatory coverage of certain employees of State and local governments.

TABLE 13.—ESTIMATED OPERATIONS OF THE OASI TRUST FUND BY ALTERNATIVE, CALENDAR YEARS 1990-2000
[Amounts in billions]

Calendar year	Income	Disbursements	Net increase in fund	Fund at end of year	Contingency fund	
					Amount[1]	Ratio[2]
1990[3]	$286.7	$227.5	$59.1	$214.2	[4]$178.5	78
Alternative I:						
1991	300.8	245.1	55.7	269.9	214.2	87
1992	323.6	260.2	63.4	333.3	269.9	104
1993	346.6	272.2	74.4	407.7	333.3	122
1994	373.2	285.2	88.0	495.7	407.7	143
1995	398.2	297.8	100.4	596.1	495.7	166
1996	428.9	310.7	118.2	714.3	596.1	192
1997	459.4	324.2	135.3	849.6	714.3	220
1998	492.7	338.5	154.2	1,003.8	849.6	251
1999	528.3	353.8	174.5	1,178.3	1,003.8	284
2000	557.9	370.0	187.9	1,366.2	1,178.3	318
Alternative II:						
1991	299.6	245.4	54.2	268.4	214.2	87
1992	322.1	262.2	59.9	328.3	268.4	102
1993	344.7	277.7	66.9	395.2	328.3	118
1994	370.5	293.6	76.8	472.1	395.2	135
1995	396.1	310.0	86.1	558.1	472.1	152
1996	424.6	327.0	97.6	655.7	558.1	171
1997	454.1	345.0	109.1	764.8	655.7	190
1998	485.8	364.1	121.8	886.6	764.8	210
1999	519.7	384.5	135.2	1,021.7	886.6	231
2000	547.4	406.2	141.2	1,162.9	1,021.7	252
Alternative III:						
1991	296.1	245.7	50.4	264.6	214.2	87
1992	314.5	266.6	47.9	312.5	264.6	99
1993	340.0	286.7	53.3	365.8	312.5	109
1994	368.0	310.5	57.5	423.4	365.8	118
1995	386.3	334.2	52.0	475.4	423.4	127
1996	416.3	355.3	61.0	536.4	475.4	134
1997	447.7	378.3	69.3	605.7	536.4	142
1998	480.1	403.0	77.1	682.8	605.7	150
1999	513.1	429.5	83.6	766.4	682.8	159
2000	538.7	457.9	80.9	847.3	766.4	167

[1]Except where noted, represents assets at beginning of year.

[2]Represents amounts shown in preceding column as a percentage of disbursements during the year. See text concerning interpretation of these ratios.

[3]Figures for 1990 represent actual experience.

[4]Represents assets at beginning of year, plus advance tax transfers for January.

Note: Totals do not necessarily equal the sums of rounded components.

Rising disbursements during calendar years 1991-2000 reflect the assumed automatic benefit increases previously shown, as well as the long-range upward trend in the numbers of beneficiaries and in the amounts of average monthly earnings underlying benefits payable by the program. The growth in the number of beneficiaries in the past and the expected growth in the future result both from the increase in the aged population and from the increase in the proportion of the population which is eligible for benefits. The latter increase is primarily due to various amendments enacted after 1950, which modified eligibility provisions and extended coverage to additional categories of employment.

Growth has also occurred, and will continue to occur, in the proportion of eligible persons who, in fact, receive benefits. This growth is due to several factors, among which are (1) the amendments enacted since 1950 which affect the conditions governing the receipt of benefits and (2) the increasing percentage of eligible persons who are aged 70 and over and who therefore may receive benefits regardless of earnings.

The estimates shown in table 13 indicate that income would substantially exceed disbursements in every year of the short-range projection period, based on each of the three alternative sets of assumptions used in this report. The assets of the OASI Trust Fund at the beginning of 1990, including advance tax transfers for January, were equal to 78 percent of the fund's disbursements in 1990. As described in the introduction to this section, this ratio is known as the "contingency fund ratio;" it provides a useful measure of the relative level of trust fund assets. During 1990, income exceeded disbursements by $59.1 billion. As a result, the contingency fund ratio increased to about 87 percent at the beginning of 1991. The increase in the OASI contingency fund ratio from 1990 to 1991 was restricted somewhat by the elimination of advance tax transfers as part of the "Omnibus Budget Reconciliation Act of 1990." As a result of this legislation, OASI and DI tax income for a given month is no longer transferred to the trust funds on the first day of the month (unless benefit payments could not be made on a timely basis without an advance transfer). Thus, tax income for a month will generally no longer be available on the first day of the month and is therefore excluded from trust fund assets, as used to calculate the contingency fund ratio.

Assets are estimated to increase substantially in each year of the short-range projection period, based on each of the three alternative sets of assumptions. The increase in the contingency fund ratio from 87 percent at the beginning of 1991 to the range of 167-318 percent at the beginning of the year 2000 is due, in part, to the increases in the OASI tax rate that became effective in 1988 and 1990. Asset growth is also assisted by the increases in taxable earnings during 1982-88 that exceeded the rate of growth in benefit payments and the expected continuation of this experience after 1991 (except for certain years under alternative III).

As noted in section IV, the portion of the OASI Trust Fund that is not needed to meet day-to-day expenditures is used to purchase investments, generally in special public-debt obligations of the U. S. Government. The cash used to make these purchases becomes part of the general fund of the Treasury and is used to meet various Federal outlays. Interest is paid to the trust fund on these securities and, when the securities mature or are redeemed prior to maturity, general fund revenues are used to repay the principal to the trust fund. Thus, the investment operations of the trust fund result in various cash flows between the trust fund and the general fund of the Treasury.

Currently, the excess of tax income to the OASI Trust Fund over the fund's expenditures results in a substantial net cash flow from the trust fund to the general fund (approximately $43 billion in calendar year 1990). Sometime after the turn of the century, as shown in subsection VI.E, this cash flow will reverse; as trust fund securities are redeemed to meet benefit payments and other expenditures, revenue from the general fund of the Treasury will be drawn upon to provide the necessary cash. The accumulation and subsequent redemption of substantial trust fund assets has important public policy and economic implications that go well beyond the operation of the OASDI program itself. Discussion of these broader issues exceeds the scope of this report.

Based on the alternative II assumptions, assets of the OASI Trust Fund would exceed 100 percent of annual expenditures by the beginning of 1992, and would remain well above the 100-percent level through the end of the year 2000. Consequently, the OASI Trust Fund satisfies the short-range test of financial adequacy adopted for use beginning with this annual report. The estimates in table 13 also indicate that the test would be satisfied even under the adverse conditions assumed in alternative III.

In interpreting the contingency fund ratios in table 13, it should be noted that, at the beginning of any month, assets of at least 8-9 percent of annual expenditures are required to make the benefit payments that are due at the beginning of the month. Therefore, the difference between the estimated contingency fund ratios shown above, and the minimum level of 8-9 percent, represents the reserve available to handle adverse contingencies.

DI Trust Fund operations

The estimated operations and status of the DI Trust Fund during calendar years 1991-2000 on the basis of the three sets of assumptions are shown in table 14, together with figures on actual experience in 1990. On the basis of each alternative, income is estimated to increase steadily during 1991-2000. This increase reflects the same factors, insofar as they apply to income to the DI Trust Fund, that are reflected in the estimated increase in income to the OASI Trust Fund during the same period.

Disbursements are estimated to increase because of automatic benefit increases and because of projected increases in the amounts of average monthly earnings on which benefits are based. In addition, on the basis of all three sets of assumptions, the number of DI beneficiaries is projected to continue increasing throughout the short-range projection period.

The projected growth in the number of DI beneficiaries primarily reflects the effects of (1) gradual increases in the number of persons estimated to be insured for disability benefits and (2) assumed increases in the proportion of those insured who become disabled. The proportion of insured workers who become disabled in a given year has fluctuated substantially in past years, and the causes for the variation have not been precisely determined. The trend has generally been upward since 1982. Although an increasing trend has been projected in past annual reports, actual increases have frequently been larger than expected. In particular, the increase in this proportion during 1990 was substantially greater than assumed in the 1990 Annual Report. In this report, with the exception of alternative I, the proportion of workers becoming disabled is assumed to continue increasing somewhat beyond the short-range period but is not assumed to return to the highest levels experienced during the 1970s. Under alternative I, this proportion is assumed to decline slightly from its level in 1990.

TABLE 14.—ESTIMATED OPERATIONS OF THE DI TRUST FUND BY ALTERNATIVE, CALENDAR YEARS 1990-2000
[Amounts in billions]

Calendar year	Income	Disbursements	Net increase in fund	Fund at end of year	Contingency fund	
					Amount[1]	Ratio[2]
1990[3]	$28.8	$25.6	$3.2	$11.1	[4]$10.4	40
Alternative I:						
1991	30.6	27.7	3.0	14.1	11.1	40
1992	32.9	29.2	3.7	17.8	14.1	48
1993	35.3	30.3	5.0	22.7	17.8	58
1994	37.8	31.7	6.2	28.9	22.7	72
1995	40.4	33.1	7.3	36.1	28.9	87
1996	43.3	34.8	8.6	44.7	36.1	104
1997	46.4	36.7	9.7	54.4	44.7	122
1998	49.6	38.9	10.7	65.1	54.4	140
1999	53.0	41.3	11.7	76.8	65.1	158
2000	65.8	44.0	21.8	98.5	76.8	174
Alternative II:						
1991	30.5	28.0	2.5	13.6	11.1	40
1992	32.7	30.3	2.4	16.0	13.6	45
1993	34.9	32.3	2.6	18.5	16.0	49
1994	37.2	34.4	2.7	21.3	18.5	54
1995	39.5	36.8	2.7	24.0	21.3	58
1996	42.1	39.5	2.5	26.5	24.0	61
1997	44.7	42.6	2.1	28.6	26.5	62
1998	47.4	45.9	1.4	30.0	28.6	62
1999	50.1	49.7	.4	30.5	30.0	60
2000	62.1	53.8	8.3	38.8	30.5	57
Alternative III:						
1991	30.1	28.4	1.7	12.8	11.1	39
1992	31.7	31.6	.2	13.0	12.8	41
1993	34.1	34.6	-.5	12.5	13.0	37
1994	36.3	38.1	-1.8	10.7	12.5	33
1995	37.5	41.9	-4.4	6.2	10.7	25
1996	39.8	45.9	-6.1	.2	6.2	14
1997[5]	42.2	50.4	-8.2	-8.0	[4]3.8	8
1998[5]	44.5	55.6	-11.1	-19.2	(6)	(6)
1999[5]	46.6	61.4	-14.8	-33.9	(6)	(6)
2000[5]	57.7	67.7	-10.0	-44.0	(6)	(6)

[1]Except where noted, represents assets at beginning of year.

[2]Represents amounts shown in preceding column as a percentage of disbursements during the year. See text concerning interpretation of these ratios.

[3]Figures for 1990 represent actual experience.

[4]Represents assets at beginning of year, plus advance tax transfers for January.

[5]Fund depleted in 1997. Figures for 1997 and later are therefore theoretical. See text for details.

[6]Fund depleted in 1997.

Note: Totals do not necessarily equal the sums of rounded components.

The continuing spread of Acquired Immunodeficiency Syndrome (AIDS) has contributed in recent years to a significant increase in both DI awards and terminations. Due to the extremely high mortality rates of affected individuals, the total number of disabled workers currently receiving benefits has not increased greatly as a result of AIDS. Although many aspects of AIDS are well understood, there remains considerable uncertainty regarding future medical advances and future incidence of the disease. To reflect this uncertainty, the projected numbers of benefit awards to AIDS patients (and their projected longevity) are varied by alternative. Through 1992, the projected range of results under the alternative sets of assumptions is very similar to the corresponding range developed by the Centers for Disease Control. Under the intermediate set of assumptions, benefit awards to people with AIDS are projected to continue to increase steadily in the short range. Under alternative I the number of new awards begins to decline in the

near future, while the number projected under alternative III increases at a very rapid rate throughout the short-range period.

At the beginning of 1990, the assets of the DI Trust Fund (including advance tax transfers for January) represented 40 percent of annual expenditures. During 1990, DI income exceeded DI expenditures by about $3.2 billion. Although DI assets increased by this amount during the year, assets available at the beginning of 1991 increased only slightly (relative to the beginning of 1990) as a result of the elimination of advance tax transfers. The contingency fund ratio at the beginning of 1991 was about 40 percent. Income is estimated to exceed expenditures through the year 2000 under the alternative I assumptions, and the DI contingency fund ratio would increase steadily to over 170 percent by the beginning of 2000.

Under the intermediate assumptions, the DI contingency fund ratio would grow slowly during 1991-97, reaching a maximum of only 62 percent before declining somewhat in 1998 and 1999. As a result of the reallocation of tax rates between OASI and DI, scheduled in present law for the year 2000, DI assets would increase significantly in that year under the alternative II assumptions.

Because DI assets fail to reach the level of 1 year's expenditures under the alternative II assumptions, the DI Trust Fund does not satisfy the short-range test of financial adequacy. Accordingly, the financial position of the DI program should be strengthened. As will be seen in the description of the financial status of the combined OASI and DI Trust Funds, a reallocation of contribution rates between the two funds would enable DI to meet the requirements of the test without causing OASI to fail the test.

Under the conditions assumed for alternative III, DI assets would grow slowly in 1991-92, but decline thereafter. Assets would become insufficient to pay benefits when due starting late in 1996, thereby prompting reinstatement of advance tax transfers. Despite such transfers, the DI Trust Fund would be depleted early in 1997 under these assumptions, in the absence of corrective legislation.

Combined OASI and DI Trust Fund operations

The estimated operations and status of the OASI and DI Trust Funds, combined, during calendar years 1991-2000 on the basis of the three alternatives, are shown in table 15, together with figures on actual experience in 1990. These amounts are generally the sums of the corresponding figures shown in tables 13 and 14. An exception is made for 1997 and later under alternative III, due to the depletion of the DI Trust Fund. In this case, the contingency fund amount shown for OASI and DI combined excludes the DI advance tax transfers that would be reinstated under present law. This adjustment is made to facilitate analysis of how the program would operate if the two trust funds were combined into one, or if tax rates were reallocated between the funds.

TABLE 15.—ESTIMATED OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, BY ALTERNATIVE, CALENDAR YEARS 1990-2000
[Amounts in billions]

Calendar year	Income	Disbursements	Net increase in funds	Funds at end of year	Contingency fund	
					Amount[1]	Ratio[2]
1990[3]	$315.4	$253.1	$62.3	$225.3	[4]$188.9	75
Alternative I:						
1991	331.5	272.8	58.7	283.9	225.3	83
1992	356.5	289.4	67.1	351.0	283.9	98
1993	381.9	302.6	79.3	430.4	351.0	116
1994	411.0	316.9	94.2	524.5	430.4	136
1995	438.6	330.9	107.7	632.3	524.5	159
1996	472.2	345.5	126.8	759.0	632.3	183
1997	505.8	360.9	145.0	904.0	759.0	210
1998	542.3	377.4	164.9	1,068.9	904.0	240
1999	581.3	395.1	186.1	1,255.1	1,068.9	271
2000	623.7	414.1	209.6	1,464.7	1,255.1	303
Alternative II:						
1991	330.1	273.4	56.7	281.9	225.3	82
1992	354.7	292.4	62.3	344.2	281.9	96
1993	379.6	310.1	69.5	413.8	344.2	111
1994	407.7	328.1	79.6	493.3	413.8	126
1995	435.6	346.8	88.7	582.1	493.3	142
1996	466.7	366.6	100.1	682.2	582.1	159
1997	498.8	387.5	111.2	793.4	682.2	176
1998	533.2	410.0	123.2	916.6	793.4	194
1999	569.8	434.2	135.6	1,052.2	916.6	211
2000	609.5	460.0	149.5	1,201.7	1,052.2	229
Alternative III:						
1991	326.2	274.1	52.2	277.4	225.3	82
1992	346.2	298.1	48.1	325.5	277.4	93
1993	374.1	321.3	52.8	378.2	325.5	101
1994	404.4	348.6	55.8	434.0	378.3	109
1995	423.7	376.2	47.6	481.6	434.0	115
1996	456.1	401.1	54.9	536.6	481.6	120
1997[5]	489.9	428.8	61.1	597.7	[6]536.6	[6]125
1998[5]	524.6	458.6	66.0	663.7	[6]597.7	[6]130
1999[5]	559.7	490.9	68.8	732.5	[6]663.7	[6]135
2000[5]	596.4	525.6	70.9	803.4	[6]732.5	[6]139

[1]Except where noted, represents assets at beginning of year.

[2]Represents amounts shown in preceding column as a percentage of disbursements during the year. See text concerning interpretation of these ratios.

[3]Figures for 1990 represent actual experience.

[4]Represents assets at beginning of year, plus OASI and DI advance tax transfers for January.

[5]Figures are theoretical because of the depletion of the DI Trust Fund in 1997.

[6]Contingency fund amounts and ratios for 1997 and later do not reflect the reinstatement of advance tax transfers to the DI Trust Fund at the end of 1996. See text for details.

Note: Totals do not necessarily equal the sums of rounded components.

At the beginning of 1990, the contingency fund ratio for the OASI and DI Trust Funds combined was 75 percent, as shown in table 15. During 1990, total income to the two trust funds was $62.3 billion higher than total expenditures, resulting in combined OASDI assets at the beginning of 1991 which represented about 82 percent of estimated combined expenditures for the year (after adjustment to reflect the general elimination of advance tax transfers, as noted previously). Based on alternative I, the contingency fund ratio for the combined funds is projected to increase substantially, reaching 303 percent at the beginning of the year 2000. Rapid growth is also projected under alternative II, with the fund ratio nearly tripling by 2000. Under the alternative III assumptions, assets would grow more slowly, but would still total 139 percent at the beginning of 2000 (excluding DI advance tax transfers, as noted).

Under the alternative II assumptions, the total assets of the OASI and DI Trust Funds, would exceed 100 percent of annual OASDI expenditures within 5 years, and would remain above that level through the remainder of the short-range projection period. Therefore, the combined trust funds meet the requirements of the short-range test of financial adequacy. This result indicates that a reallocation of tax rates between OASI and DI would be sufficient to enable each trust fund to comply with the test individually. Under the less favorable conditions assumed in alternative III, the fund ratio for OASI and DI combined would still increase to more than 100 percent within 5 years, and would remain above that level through 2000. Thus, the depletion of the DI Trust Fund under such conditions could be avoided through a tax rate reallocation without jeopardizing the financial status of the OASI program.

Section 215(i) of the Social Security Act defines an "OASDI fund ratio" for the purpose of determining automatic benefit increases in 1984 and later. If this ratio is below a specified threshold, the benefit increase would be based on the lesser of certain wage and price increases. Following the final repayment in January 1986 of amounts borrowed from the HI Trust Fund, the "OASDI fund ratio" specified for the purpose of determining benefit increases is generally equal to the contingency fund ratio shown in table 15. (Under alternative III, the ratio for 1997 and later would be approximately 1 percentage point greater than shown, reflecting the DI advance tax transfers that would be available under present law.) Under all three alternatives, this ratio would not be lower than the 20-percent threshold applicable in 1989 and later. Thus, the benefit-increase "stabilizer" provision would not be triggered during the short-range projection period under any of the sets of assumptions used in this report.

Figure 1 presents the estimated total assets of the OASI and DI Trust Funds at the end of each year 1991-2000, based on the three sets of assumptions (together with actual assets at the end of 1990). Figure 2 illustrates the pattern of the estimated future OASDI contingency fund ratios under the three alternatives. Contingency fund ratios for selected years prior to 1991, and estimates for 1991-2000 under the three alternatives, are shown in table 16 for OASI, DI, and both funds combined. In evaluating the ratios shown in figure 2 and table 16, it should be recalled that a minimum of 8-9 percent is needed to meet monthly cash-flow requirements. The shaded area in figure 2 depicts this requirement.

FIGURE 1.—ESTIMATED ASSETS AT END OF YEAR, FOR OASI AND DI TRUST FUNDS COMBINED, CALENDAR YEARS 1990-2000

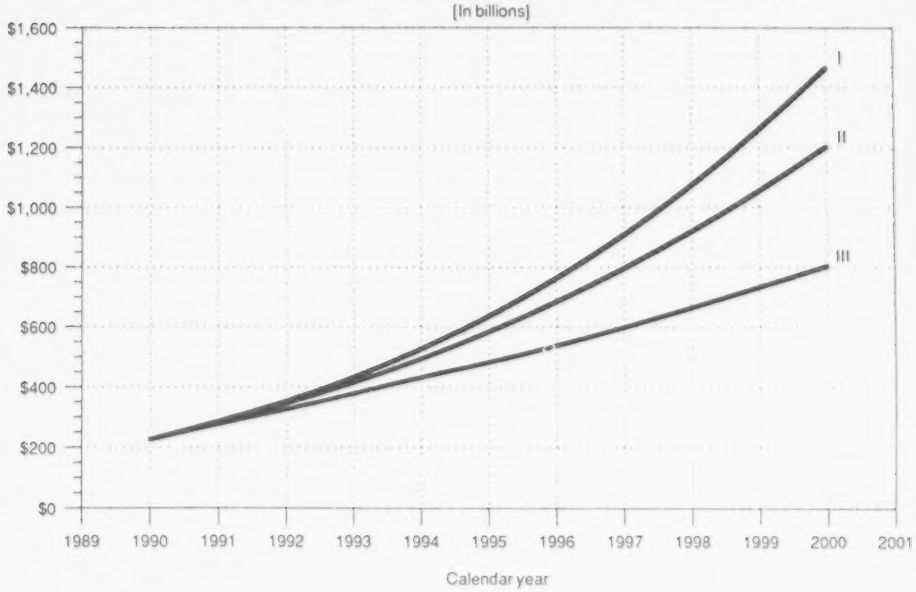


FIGURE 2.—ESTIMATED CONTINGENCY FUND RATIOS, FOR OASI AND DI TRUST FUNDS COMBINED, CALENDAR YEARS 1990-2000

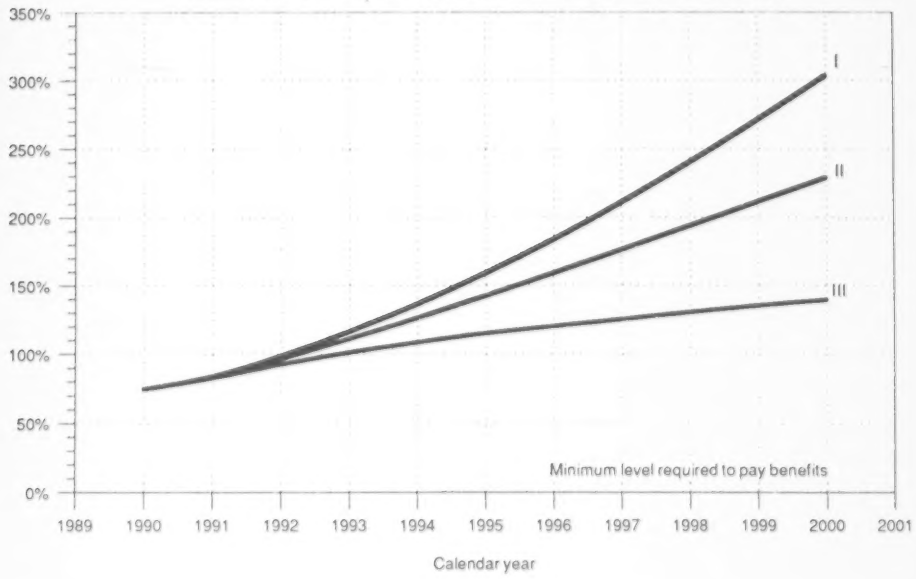


TABLE 16.—CONTINGENCY FUND RATIOS[1] BY TRUST FUND, SELECTED CALENDAR YEARS 1950-90, AND ESTIMATED FUTURE RATIOS BY ALTERNATIVE, CALENDAR YEARS 1991-2000
[In percent]

Calendar year	OASI Trust Fund	DI Trust Fund	OASI and DI Trust Funds, combined
Past experience:			
1950	1,156	—	1,156
1955	405	—	405
1960	180	304	186
1965	109	121	110
1970	101	126	103
1975	63	92	66
1980	23	35	25
1981	18	21	18
1982	15	17	15
1983	15	14	14
1984	20	35	21
1985	24	27	24
1986	28	38	29
1987	30	44	31
1988	41	38	41
1989	59	38	57
1990	78	40	75
Alternative I:			
1991	87	40	83
1992	104	48	98
1993	122	58	116
1994	143	72	136
1995	166	87	159
1996	192	104	183
1997	220	122	210
1998	251	140	240
1999	284	158	271
2000	318	174	303
Alternative II:			
1991	87	40	82
1992	102	45	96
1993	118	49	111
1994	135	54	126
1995	152	58	142
1996	171	61	159
1997	190	62	176
1998	210	62	194
1999	231	60	211
2000	252	57	229
Alternative III:			
1991	87	39	82
1992	99	41	93
1993	109	37	101
1994	118	33	109
1995	127	25	115
1996	134	14	120
1997[2]	142	8	[3]125
1998[2]	150	([4])	[3]130
1999[2]	159	([4])	[3]135
2000[2]	167	([4])	[3]139

[1]Represents assets at beginning of year as a percentage of disbursements during the year. For 1984-90, assets at beginning of year for each trust fund and the combined funds include the respective OASI and DI advance tax transfers for January.

[2]Figures for DI, and for OASI and DI combined, are theoretical because of the depletion of the DI Trust Fund in 1997.

[3]Does not reflect the reinstatement of advance tax transfers to the DI Trust Fund at the end of 1996. See text for details.

[4]Fund depleted in 1997.

Table 17 shows that expenditures in calendar year 1990 from both trust funds, combined, were 10.66 percent of taxable payroll for the year—1.95 percentage points less than the income rate of 12.61 percent. During much of the 1980s, the cost rate declined steadily—from 11.93 percent in 1982 to 10.49 percent in 1989. This reduction was primarily attributable to the combined effect of (1) favorable economic experience, which resulted in faster growth in covered earnings than in benefit payments, and (2) a declining proportion of beneficiaries with benefits determined under the computation method used prior to the 1977 amendments. As described in various other references, the benefit computation procedure in effect prior to the 1977 amendments had the unintended effect of increasing benefit levels for new beneficiaries at a faster rate than the increase in average wages. Other factors contributing to the recent decline in cost rates include rapid growth in the work force (as the last of the "baby boom" reached working age), declines in the number of certain types of beneficiaries (such as children of retired, disabled, or deceased workers) as a result of both demographic causes and various past amendments, and the provisions of the 1983 amendments that reduced benefits and expanded coverage of employment.

Several of these factors appear to be in the process of changing somewhat, compared to their trend since 1983. The cost rate for 1990 increased slightly, as a result of a percentage increase in aggregate benefit payments that exceeded the increase in taxable payroll. The higher-than-trend increase in benefit payments was attributable to the 4.7-percent benefit increase for December 1989, and the change to the "$1-for-$3" benefit offset rate for beneficiaries at ages 65 through 69 under the retirement test (effective in January 1990). Simultaneously, a lower-than-trend increase in taxable payroll occurred due to slower growth in covered workers, and to a decline in average net earnings from self-employment (resulting from the new deduction for 1990 and later, as described in section IV). These less favorable conditions were exacerbated by the December 1990 benefit increase of 5.4 percent and the economic recession that began in the fourth quarter of 1990.

Based on alternative I, the OASDI cost rate is estimated to decline slowly during the short-range projection period, reaching 9.69 percent in 2000. Based on alternative II, the cost rate would remain in the neighborhood of 11 percent throughout the 10-year projection period. Under alternative III, it would increase somewhat, to 12.33 percent in 2000. These percentages are shown in table 17 for both trust funds, separately and combined. Table 17 also shows a comparison of the cost rates with the corresponding income rates. As explained previously, the income rate represents the sum of the combined employee-employer contribution rate and the income derived from the Federal income taxation of OASDI benefits, expressed as a percentage of effective taxable payroll. The difference between the income rate and the cost rate for a given year is referred to as the "balance" for that year.

TABLE 17.—COMPARISON OF INCOME RATES AND COST RATES, BY TRUST FUND, SELECTED CALENDAR YEARS 1950-90, AND ESTIMATED RATES BY ALTERNATIVE, CALENDAR YEARS 1991-2000
(As a percentage of taxable payroll)

Calendar year	OASI Trust Fund			DI Trust Fund			Total		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Past experience:									
1950	3.00	1.17	1.83	—	—	—	3.00	1.17	1.83
1955	4.00	3.34	.66	—	—	—	4.00	3.34	.66
1960	5.50	5.59	–.09	0.50	0.30	0.20	6.00	5.89	.11
1965	6.75	7.23	–.48	.50	.70	–.20	7.25	7.93	–.68
1970	7.30	7.32	–.02	1.10	.81	.29	8.40	8.12	.28
1975	8.75	9.29	–.54	1.15	1.36	–.21	9.90	10.65	–.75
1980	9.04	9.32	–.28	1.12	1.37	–.25	10.16	10.69	–.53
1981	9.40	9.96	–.56	1.30	1.39	–.09	10.70	11.35	–.65
1982	9.15	10.59	–1.44	1.65	1.34	.31	10.80	11.93	–1.13
1983	[1]9.91	10.27	–.36	[1]1.33	1.22	.10	[1]11.24	11.49	–.25
1984	10.58	10.08	.49	1.01	1.16	–.14	11.59	11.24	.35
1985	[1]10.71	9.95	.77	[1]1.07	1.13	–.06	[1]11.79	11.08	.71
1986[2]	10.59	9.83	.76	1.01	1.11	–.10	11.60	10.94	.66
1987[2]	10.57	9.59	.98	1.00	1.09	–.10	11.56	10.68	.88
1988[2]	11.22	9.57	1.65	1.06	1.08	–.01	12.28	10.65	1.64
1989[2]	11.17	9.43	1.74	1.06	1.05	.01	12.23	10.49	1.75
1990[2]	[1]11.40	9.58	1.82	[1]1.21	1.08	.13	[1]12.61	10.66	1.95
Alternative I:									
1991	11.40	9.91	1.50	1.21	1.12	.09	12.61	11.03	1.59
1992	11.41	9.90	1.51	1.21	1.11	.10	12.62	11.01	1.61
1993	11.41	9.72	1.69	1.21	1.08	.12	12.62	10.80	1.82
1994	11.41	9.56	1.85	1.21	1.06	.15	12.62	10.63	2.00
1995	[1]11.37	9.38	1.98	[1]1.21	1.04	.16	[1]12.57	10.43	2.14
1996	11.41	9.22	2.20	1.21	1.03	.18	12.62	10.25	2.37
1997	11.41	9.06	2.36	1.21	1.03	.18	12.62	10.08	2.54
1998	11.42	8.91	2.51	1.21	1.02	.18	12.63	9.94	2.69
1999	11.42	8.78	2.64	1.21	1.03	.18	12.63	9.81	2.82
2000	[1]11.21	8.66	2.55	[1]1.43	1.03	.40	[1]12.64	9.69	2.94
Alternative II:									
1991	11.41	9.96	1.44	1.21	1.14	.07	12.61	11.10	1.51
1992	11.41	10.03	1.39	1.21	1.16	.05	12.62	11.18	1.44
1993	11.42	9.98	1.44	1.21	1.16	.05	12.63	11.14	1.48
1994	11.42	9.93	1.49	1.21	1.16	.04	12.63	11.10	1.53
1995	[1]11.42	9.86	1.56	[1]1.21	1.17	.04	[1]12.63	11.04	1.59
1996	11.43	9.80	1.63	1.21	1.19	.02	12.64	10.99	1.65
1997	11.43	9.74	1.69	1.21	1.20	.01	12.64	10.94	1.69
1998	11.44	9.69	1.74	1.21	1.22	–.01	12.65	10.92	1.73
1999	11.45	9.65	1.80	1.21	1.25	–.04	12.66	10.90	1.76
2000	[1]11.23	9.61	1.63	[1]1.43	1.27	.16	[1]12.66	10.88	1.79
Alternative III:									
1991	11.41	10.11	1.30	1.21	1.17	.04	12.62	11.28	1.34
1992	11.42	10.47	.96	1.21	1.24	–.03	12.63	11.71	.93
1993	11.43	10.45	.98	1.21	1.26	–.05	12.64	11.71	.93
1994	11.44	10.59	.84	1.21	1.30	–.09	12.65	11.89	.75
1995	[1]11.45	10.94	.51	[1]1.21	1.37	–.16	[1]12.66	12.31	.35
1996	11.45	10.82	.63	1.21	1.40	–.19	12.66	12.22	.45
1997	11.45	10.75	.70	1.21	1.43	–.22	12.67	12.18	.48
1998	11.46	10.71	.75	1.21	1.48	–.27	12.67	12.19	.49
1999	11.47	10.72	.75	1.21	1.53	–.32	12.69	12.25	.44
2000	[1]11.26	10.74	.52	[1]1.43	1.59	–.16	[1]12.70	12.33	.37

[1]Income rates for 1983, 1985, 1990, 1995, and 2000 are adjusted to include the lump-sum payments from the general fund of the Treasury (or adjustments to such payments) for the cost of noncontributory wage credits for military service in 1940-56.

[2]Figures shown are preliminary.

Note: Totals do not necessarily equal the sums of rounded components.

Estimates of the operations of the trust funds during calendar years 1991-2000 have been presented in the preceding tables on the basis of three different sets of economic assumptions, because of the uncertainty of future economic and demographic developments. Under the provisions of the Social Security Act, however, estimates of the expected operations and status of the trust funds during the next 5 *fiscal* years are required to be shown in this report. Accordingly, detailed estimates of the expected operations and status of the trust funds during each fiscal year 1991-95 are shown in the remaining tables of this section for the intermediate set of assumptions (alternative II) only. Similar detailed estimates are also shown for 5 additional fiscal years (1996-2000) and on a calendar-year basis for 1991-2000.

Data on the actual operations of the OASI Trust Fund for selected years during 1940-90, and estimates of the expected operations of the trust fund during 1991-2000 on the basis of the intermediate set of assumptions, are shown in tables 18 and 19 on a fiscal- and calendar-year basis, respectively. Corresponding figures on the operations of the DI Trust Fund are shown in tables 20 and 21. Operations of both trust funds combined are shown in tables 22 and 23. (Data relating to the operations of the two trust funds for years not shown in tables 18-23 are contained in past annual reports.) The figures shown in tables 19, 21, and 23 for 1981, 1982, 1987, and 1988 are adjusted to reflect 12 months of benefit payments in each year. The amounts estimated for 1992, 1993, 1998, and 1999 are similarly adjusted.

TABLE 18.—OPERATIONS OF THE OASI TRUST FUND DURING SELECTED FISCAL YEARS 1940-90 AND ESTIMATED FUTURE OPERATIONS DURING FISCAL YEARS 1991-2000 ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

[In millions]

	Income					Disbursements						
Fiscal year[1]	Total	Net contributions[2]	Income from taxation of benefits	Payments from the general fund of the Treasury[3]	Net interest[4]	Total	Benefit payments[5]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[6]	Net increase in fund	Fund at end of period
Past experience:												
1940	$592	$550	—	—	$42	$28	$16	$12	—	—	$564	$1,745
1945	1,434	1,310	—	—	124	267	240	27	—	—	1,167	6,613
1950	2,367	2,106	—	$4	257	784	727	57	—	—	1,583	12,893
1955	5,525	5,087	—	—	438	4,427	4,333	103	–$10	—	1,098	21,141
1960	10,360	9,843	—	—	517	11,073	10,270	202	600	—	–713	20,829
1965	16,443	15,857	—	—	586	15,962	15,226	300	436	—	482	20,180
1970	31,746	29,955	—	442	1,350	27,321	26,268	474	579	—	4,425	32,616
1975	58,757	56,017	—	447	2,292	56,676	54,847	848	982	—	2,081	39,948
1980	100,051	97,608	—	557	1,886	103,228	100,626	1,160	1,442	—	–3,177	24,566
1981	121,572	119,016	—	540	2,016	122,304	119,421	1,298	1,585	—	–732	23,834
1982	126,629	124,246	—	675	1,708	137,928	134,661	1,474	1,793	—	–11,299	12,535
1983	148,434	136,127	—	6,096	6,210	151,827	148,025	1,551	2,251	$17,519	14,125	26,661
1984	160,729	156,553	$2,132	125	1,919	159,820	155,831	1,585	2,404	—	909	27,570
1985	179,881	175,305	3,151	105	1,321	169,210	165,310	1,589	2,310	–4,364	6,308	33,877
1986	195,331	187,007	3,329	2,293	2,701	178,534	174,340	1,609	2,585	–13,155	3,642	37,519
1987	206,846	199,554	3,323	69	3,900	186,101	182,003	1,541	2,557	—	20,745	58,265
1988	235,720	226,409	3,335	55	5,922	197,021	192,502	1,729	2,790	—	38,700	96,964
1989	260,457	247,116	3,638	43	9,660	209,102	204,600	1,657	2,845	—	51,355	148,319
1990	278,607	261,506	2,924	34	14,143	223,481	218,948	1,564	2,969	—	55,126	203,445
Estimated future experience:												
1991	293,429	271,412	5,354	–2,089	18,751	241,137	235,963	1,706	3,467	—	52,292	255,737
1992	315,205	286,979	5,440	19	22,767	257,942	252,699	1,876	3,367	—	57,263	313,000
1993	338,636	305,733	5,934	15	26,954	273,892	268,443	1,941	3,508	—	64,744	377,744
1994	364,608	326,815	6,432	12	31,350	289,723	284,069	2,005	3,648	—	74,885	452,629
1995	388,769	345,701	6,946	9	36,113	305,949	300,103	2,075	3,771	—	82,820	535,449
1996	416,733	367,879	7,481	–114	41,487	322,798	316,764	2,146	3,887	—	93,935	629,385
1997	445,713	390,136	8,031	5	47,540	340,487	334,281	2,218	3,987	—	105,226	734,611
1998	476,844	413,892	8,744	4	54,204	359,314	352,802	2,292	4,220	—	117,530	852,140
1999	510,094	439,078	9,570	3	61,443	379,382	372,634	2,367	4,382	—	130,711	982,852
2000	538,896	458,931	10,479	2	69,485	400,749	393,751	2,444	4,554	—	138,147	1,120,998

See following page for footnotes.

[1]Under the Congressional Budget Act of 1974 (Public Law 93-344), fiscal years 1977 and later consist of the 12 months ending on September 30 of each year. The act further provides that the calendar quarter July-September 1976 is a period of transition from fiscal year 1976, which ended on June 30, 1976, to fiscal year 1977, which began on October 1, 1976.

[2]Beginning in 1983, includes transfers from general fund of Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 and later, if such credits were considered to be covered wages. The amount shown for 1983 includes, in addition to the annual transfer for 1983 wage credits, a net amount of $5,388 million representing (1) retroactive transfers for deemed wage credits for military service in 1957-82, less (2) all reimbursements received prior to 1983 for the costs of such credits. An adjustment to these amounts totaling $466 million was transferred to the trust fund from the general fund of the Treasury in 1984.

[3]Includes payments (1) in 1947-52 and in 1967 and later, for costs of noncontributory wage credits for military service performed before 1957; (2) in 1972-83, for costs of deemed wage credits for military service performed after 1956; and (3) in 1969 and later, for costs of benefits to certain uninsured persons who attained age 72 before 1968.

[4]Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust fund on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in October 1973, the figures shown include relatively small amounts of gifts to the fund. Beginning in 1983, these figures reflect payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. During 1983-91, interest paid from the trust fund to the general fund on advance tax transfers is reflected. The amount shown for 1983 includes $6,677 million in interest on (1) retroactive general fund transfers for deemed wage credits for military service in 1957-82, and (2) unnegotiated benefit checks issued before 1983. The amount shown for 1984 includes an interest adjustment of $1,732 million on general fund transfers for deemed wage credits for military service in 1957-83. The amounts shown for 1985 and 1986 include interest adjustments of $76.5 million and $11.5 million, respectively, on unnegotiated checks issued before April 1985.

[5]Beginning in 1967, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks. The amount shown for 1983 is reduced by $288 million for all unnegotiated checks issued before 1983; reductions in subsequent years are relatively small.

[6]Positive figure represents amounts lent to the OASI Trust Fund from the DI and HI Trust Funds. Negative figures represent amounts repaid from the OASI Trust Fund to the DI and HI Trust Funds.

TABLE 19.—OPERATIONS OF THE OASI TRUST FUND DURING SELECTED CALENDAR YEARS 1940-90 AND ESTIMATED FUTURE OPERATIONS DURING CALENDAR YEARS 1991-2000 ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

[In millions]

	Income					Disbursements						
Calendar year	Total	Net contributions[1]	Income from taxation of benefits	Payments from the general fund of the Treasury[2]	Net interest[3]	Total	Benefit payments[4]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[5]	Net increase in fund	Fund at end of period
Past experience:												
1940	$368	$325	—	—	$43	$62	$35	$26	—	—	$306	$2,031
1945	1,420	1,285	—	—	134	304	274	30	—	—	1,116	7,121
1950	2,928	2,667	—	$4	257	1,022	961	61	—	—	1,905	13,721
1955	6,167	5,713	—	—	454	5,079	4,968	119	–$7	—	1,087	21,663
1960	11,382	10,866	—	—	516	11,198	10,677	203	318	—	184	20,324
1965	16,610	16,017	—	—	593	17,501	16,737	328	436	—	–890	18,235
1970	32,220	30,256	—	449	1,515	29,848	28,798	471	579	—	2,371	32,454
1975	59,605	56,816	—	425	2,364	60,395	58,517	896	982	—	–790	36,987
1980	105,841	103,456	—	540	1,845	107,678	105,083	1,154	1,442	—	–1,837	22,823
1981	125,361	122,627	—	675	2,060	126,695	123,803	1,307	1,585	—	–1,334	21,490
1982	125,198	123,673	—	680	845	142,119	138,806	1,519	1,793	$17,519	598	22,088
1983	150,584	138,337	—	5,541	6,706	152,999	149,221	1,528	2,251	—	–2,416	19,672
1984	169,328	164,122	$2,835	105	2,266	161,883	157,841	1,638	2,404	—	7,445	27,117
1985	184,239	176,958	3,208	2,203	1,871	171,150	167,248	1,592	2,310	–4,364	8,725	35,842
1986	197,393	190,741	3,424	160	3,069	181,000	176,813	1,601	2,585	–13,155	3,239	39,081
1987	210,736	202,735	3,257	55	4,690	187,668	183,587	1,524	2,557	—	23,068	62,149
1988	240,770	229,775	3,384	43	7,568	200,020	195,454	1,776	2,790	—	40,750	102,899
1989	264,653	250,195	2,439	34	11,985	212,489	207,971	1,673	2,845	—	52,164	155,063
1990	286,653	267,530	4,848	–2,089	16,363	227,519	222,987	1,563	2,969	—	59,134	214,197
Estimated future experience:												
1991	299,587	273,654	5,068	19	20,846	245,411	240,205	1,740	3,467	—	54,175	268,373
1992	322,075	291,658	5,569	15	24,833	262,154	256,895	1,893	3,367	—	59,921	328,293
1993	344,677	309,496	6,055	12	29,114	277,731	272,266	1,957	3,508	—	66,946	395,239
1994	370,468	330,252	6,557	9	33,650	293,648	287,977	2,023	3,648	—	76,820	472,059
1995	396,072	350,401	7,076	–114	38,709	310,009	304,145	2,093	3,771	—	86,063	558,122
1996	424,620	372,570	7,617	5	44,427	327,048	320,996	2,164	3,887	—	97,572	655,694
1997	454,098	395,156	8,171	4	50,767	344,982	338,758	2,237	3,987	—	109,116	764,810
1998	485,835	419,168	8,937	3	57,727	364,080	357,549	2,311	4,220	—	121,755	886,564
1999	519,685	444,516	9,784	2	65,384	384,503	377,736	2,386	4,382	—	135,182	1,021,746
2000	547,404	463,122	10,714	2	73,567	406,200	399,182	2,464	4,554	—	141,204	1,162,950

See following page for footnotes.

[1]Beginning in 1983, includes transfers from general fund of Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 and later, if such credits were considered to be covered wages. The amount shown for 1983 includes, in addition to the annual transfer for 1983 wage credits, a net amount of $5,388 million representing (1) retroactive transfers for deemed wage credits for military service in 1957-82, less (2) all reimbursements received prior to 1983 for the costs of such credits. An adjustment to these amounts totaling $466 million was transferred to the trust fund from the general fund of the Treasury in 1984.

[2]Includes payments (1) in 1947-51 and in 1966 and later, for costs of noncontributory wage credits for military service performed before 1957; (2) in 1971-82, for costs of deemed wage credits for military service performed after 1956; and (3) in 1968 and later, for costs of benefits to certain uninsured persons who attained age 72 before 1968.

[3]Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust fund on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in October 1973, the figures shown include relatively small amounts of gifts to the fund. Beginning in 1983, these figures reflect payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. During 1983-90, interest paid from the trust fund to the general fund on advance tax transfers is reflected. The amount shown for 1983 includes $6,677 million in interest on (1) retroactive general fund transfers for deemed wage credits for military service in 1957-82, and (2) unnegotiated benefit checks issued before 1983. The amount shown for 1984 includes an interest adjustment of $1,732 million on general fund transfers for deemed wage credits for military service in 1957-83. The amount shown for 1985 includes an interest adjustment of $88 million on unnegotiated checks issued before April 1985.

[4]Beginning in 1966, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks. The amount shown for 1983 is reduced by $288 million for all unnegotiated checks issued before 1983; reductions in subsequent years are relatively small.

[5]Positive figure represents amounts lent to the OASI Trust Fund from the DI and HI Trust Funds. Negative figures represent amounts repaid from the OASI Trust Fund to the DI and HI Trust Funds.

TABLE 20.—OPERATIONS OF THE DI TRUST FUND DURING SELECTED FISCAL YEARS 1960-90 AND ESTIMATED FUTURE OPERATIONS DURING FISCAL YEARS 1991-2000 ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

[In millions]

	Income					Disbursements						
Fiscal year[1]	Total	Net contributions[2]	Income from taxation of benefits	Payments from the general fund of the Treasury[3]	Net interest[4]	Total	Benefit payments[5]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[6]	Net increase in fund	Fund at end of period
Past experience:												
1960	$1,034	$987	—	—	$47	$533	$528	$32	–$27	—	$501	$2,167
1965	1,237	1,175	—	—	62	1,495	1,392	79	24	—	–257	2,007
1970	4,380	4,141	—	$16	223	2,954	2,795	149	10	—	1,426	5,104
1975	7,920	7,356	—	52	512	7,982	7,701	253	29	—	–62	8,191
1980	17,376	16,805	—	118	453	15,320	14,998	334	–12	—	2,056	7,680
1981	12,993	12,589	—	130	273	17,280	16,846	405	29	—	–4,288	3,392
1982	21,398	20,866	—	168	363	18,035	17,437	572	26	—	3,363	6,755
1983	21,846	19,036	—	1,295	1,515	18,231	17,544	659	28	–$5,081	–1,466	5,290
1984	17,732	16,394	$143	—	1,195	18,379	17,772	585	22	—	–647	4,643
1985	17,984	16,876	217	—	891	19,294	18,648	603	43	2,540	1,230	5,873
1986	20,130	18,139	229	1,017	746	20,196	19,529	600	68	2,541	2,475	8,348
1987	20,047	19,324	[7]–16	—	738	21,222	20,427	738	57	—	–1,175	7,173
1988	22,369	21,736	56	—	577	22,269	21,405	803	61	—	100	7,273
1989	24,479	23,694	135	—	650	23,389	22,550	751	88	—	1,090	8,363
1990	28,215	27,291	158	—	766	25,124	24,327	717	80	—	3,091	11,455
Estimated future experience:												
1991	29,388	29,017	146	–775	1,000	27,352	26,521	765	66	—	[illegible]	13,490
1992	31,988	30,622	217	—	1,150	29,693	28,789	849	55	—	2,295	15,786
1993	34,463	32,918	229	—	1,315	31,814	30,805	953	57	—	2,649	18,434
1994	36,736	35,013	241	—	1,483	33,900	32,826	1,014	59	—	2,836	21,270
1995	38,943	37,041	253	—	1,650	36,225	35,078	1,081	66	—	2,719	23,989
1996	41,496	39,416	280	–2	1,803	38,853	37,632	1,151	70	—	2,643	26,632
1997	44,062	41,806	313	—	1,943	41,790	40,488	1,225	77	—	2,272	28,904
1998	46,750	44,352	351	—	2,047	45,073	43,686	1,303	83	—	1,677	30,582
1999	49,537	47,051	394	—	2,092	48,735	47,258	1,386	90	—	802	31,384
2000	59,175	56,579	443	—	2,153	52,763	51,192	1,474	97	—	6,412	37,796

See following page for footnotes.

[1]Under the Congressional Budget Act of 1974 (Public Law 93-344), fiscal years 1977 and later consist of the 12 months ending on September 30 of each year. The act further provides that the calendar quarter July-September 1976 is a period of transition from fiscal year 1976, which ended on June 30, 1976, to fiscal year 1977, which began on October 1, 1976.

[2]Beginning in 1983, includes transfers from general fund of Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 and later, if such credits were considered to be covered wages. The amount shown for 1983 includes, in addition to the annual transfer for 1983 wage credits, a net amount of $402 million representing (1) retroactive transfers for deemed wage credits for military service in 1957-82, less (2) all reimbursements received prior to 1983 for the costs of such credits. An adjustment to these amounts totaling $62 million was transferred to the trust fund from the general fund of the Treasury in 1984.

[3]Includes payments (1) in 1967 and later, for costs of noncontributory wage credits for military service performed before 1957; and (2) in 1972-83, for costs of deemed wage credits for military service performed after 1956.

[4]Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust fund on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in July 1974, the figures shown include relatively small amounts of gifts to the fund. Beginning in 1983, these figures reflect payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. During 1983-91, interest paid from the trust fund to the general fund on advance tax transfers is reflected. The amount shown for 1983 includes $660 million in interest on (1) retroactive general fund transfers for deemed wage credits for military service in 1957-82, and (2) unnegotiated benefit checks issued before 1983. The amount shown for 1984 includes an interest adjustment of $169 million on general fund transfers for deemed wage credits for military service in 1957-83. The amount shown for 1985 includes an interest adjustment of $14.8 million on unnegotiated checks issued before April 1985.

[5]Beginning in 1967, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks. The amount shown for 1983 is reduced by $48 million for all unnegotiated checks issued before 1983; reductions in subsequent years are relatively small.

[6]Negative figure represents amounts lent by the DI Trust Fund to the OASI Trust Fund. Positive figures represent repayment of these amounts.

[7]Reflects $195 million in transfers from the DI Trust Fund to the general fund of the Treasury to correct estimated amounts transferred for calendar years 1984 and 1985.

TABLE 21.—OPERATIONS OF THE DI TRUST FUND DURING SELECTED CALENDAR YEARS 1960-90 AND ESTIMATED FUTURE OPERATIONS DURING CALENDAR YEARS 1991-2000 ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

[In millions]

	Income					Disbursements						
Calendar year	Total	Net contributions[1]	Income from taxation of benefits	Payments from the general fund of the Treasury[2]	Net interest[3]	Total	Benefit payments[4]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[5]	Net increase in fund	Fund at end of period
Past experience:												
1960	$1,063	$1,010	—	—	$53	$600	$568	$36	–$5	—	$464	$2,289
1965	1,247	1,188	—	—	59	1,687	1,573	90	24	—	–440	1,606
1970	4,774	4,481	—	$16	277	3,259	3,085	164	10	—	1,514	5,614
1975	8,035	7,444	—	90	502	8,790	8,505	256	29	—	–754	7,354
1980	13,871	13,255	—	130	485	15,872	15,515	368	–12	—	–2,001	3,629
1981	17,078	16,738	—	168	172	17,658	17,192	436	29	—	–580	3,049
1982	22,715	21,995	—	174	546	17,992	17,376	590	26	–$5,081	–358	2,691
1983	20,682	17,991	—	1,121	1,569	18,177	17,524	625	28	—	2,505	5,195
1984	17,309	15,945	$190	—	1,174	18,546	17,898	626	22	—	–1,237	3,959
1985	19,301	17,191	222	1,017	870	19,478	18,827	608	43	2,540	2,363	6,321
1986	19,439	18,399	238	—	803	20,522	19,853	600	68	2,541	1,459	7,780
1987	20,303	19,691	[6]–36	—	648	21,425	20,519	849	57	—	–1,122	6,658
1988	22,699	22,039	61	—	600	22,494	21,695	737	61	—	206	6,864
1989	24,795	23,993	95	—	707	23,753	22,911	754	88	—	1,041	7,905
1990 [b]	28,791	28,539	144	–775	883	25,616	24,829	707	80	—	3,174	11,079
Estimated future experience:												
1991	30,502	29,223	207	—	1,072	28,024	27,137	821	66	—	2,477	13,557
1992	32,651	31,197	220	—	1,233	30,251	29,316	880	55	—	2,399	15,956
1993	34,913	33,280	232	—	1,400	32,327	31,299	971	57	—	2,586	18,542
1994	37,190	35,382	243	—	1,565	34,444	33,350	1,034	59	—	2,747	21,289
1995	39,524	37,544	256	–2	1,726	36,838	35,671	1,102	66	—	2,686	23,975
1996	42,082	39,919	288	—	1,875	39,548	38,305	1,173	70	—	2,534	26,509
1997	44,666	42,345	322	—	1,999	42,562	41,237	1,248	77	—	2,104	28,612
1998	47,355	44,918	361	—	2,076	45,939	44,528	1,328	83	—	1,415	30,027
1999	50,135	47,633	405	—	2,096	49,698	48,195	1,413	90	—	437	30,464
2000	62,105	59,299	456	—	2,350	53,813	52,214	1,502	97	—	8,292	38,756

See following page for footnotes.

[1]Beginning in 1983, includes transfers from general fund of Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 and later, if such credits were considered to be covered wages. The amount shown for 1983 includes, in addition to the annual transfer for 1983 wage credits, a net amount of $402 million representing (1) retroactive transfers for deemed wage credits for military service in 1957-82, less (2) all reimbursements received prior to 1983 for the costs of such credits. An adjustment to these amounts totaling $62 million was transferred to the trust fund from the general fund of the Treasury in 1984.

[2]Includes payments (1) in 1966 and later, for costs of noncontributory wage credits for military service performed before 1957; and (2) in 1971-82, for costs of deemed wage credits for military service performed after 1956.

[3]Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust fund on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in July 1974, the figures shown include relatively small amounts of gifts to the fund. Beginning in 1983, these figures reflect payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. During 1983-90, interest paid from the trust fund to the general fund on advance tax transfers is reflected. The amount shown for 1983 includes $660 million in interest on (1) retroactive general fund transfers for deemed wage credits for military service in 1957-82, and (2) unnegotiated benefit checks issued before 1983. The amount shown for 1984 includes an interest adjustment of $169 million on general fund transfers for deemed wage credits for military service in 1957-83. The amount shown for 1985 includes an interest adjustment of $14.8 million on unnegotiated checks issued before April 1985.

[4]Beginning in 1966, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks. The amount shown for 1983 is reduced by $48 million for all unnegotiated checks issued before 1983; reductions in subsequent years are relatively small.

[5]Negative figure represents amounts lent by the DI Trust Fund to the OASI Trust Fund. Positive figures represent repayment of these amounts.

[6]Reflects $195 million in transfers from the DI Trust Fund to the general fund of the Treasury to correct estimated amounts transferred for calendar years 1984 and 1985.

TABLE 22.—OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, DURING SELECTED FISCAL YEARS 1960-90 AND ESTIMATED FUTURE OPERATIONS DURING FISCAL YEARS 1991-2000 ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

[In millions]

	Income					Disbursements						
Fiscal year[1]	Total	Net contributions[2]	Income from taxation of benefits	Payments from the general fund of the Treasury[3]	Net interest[4]	Total	Benefit payments[5]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[6]	Net increase in funds	Funds at end of period
Past experience:												
1960	$11,394	$10,830	—	—	$564	$11,606	$10,798	$234	$574	—	–$212	$22,996
1965	17,681	17,032	—	—	648	17,456	16,618	379	459	—	224	22,187
1970	36,127	34,096	—	$458	1,572	30,275	29,063	623	589	—	5,851	37,720
1975	66,677	63,374	—	499	2,804	64,658	62,547	1,101	1,010	—	2,018	48,138
1980	117,427	114,413	—	675	2,339	118,548	115,624	1,494	1,430	—	–1,121	32,246
1981	134,565	131,606	—	670	2,289	139,584	136,267	1,703	1,614	—	–5,019	27,226
1982	148,027	145,113	—	843	2,072	155,963	152,097	2,046	1,820	—	–7,936	19,290
1983	170,280	155,163	—	7,391	7,725	170,058	165,569	2,210	2,279	$12,437	12,660	31,950
1984	178,461	172,946	$2,275	125	3,114	178,199	173,603	2,170	2,426	—	262	32,212
1985	197,865	192,181	3,368	105	2,211	188,504	183,959	2,192	2,353	–1,824	7,538	39,750
1986	215,461	205,146	3,558	3,310	3,447	198,730	193,869	2,209	2,653	–10,613	6,117	45,867
1987	226,893	218,878	3,307	69	4,638	207,323	202,430	2,279	2,614	—	19,570	65,437
1988	258,090	248,145	3,390	55	6,500	219,290	213,907	2,532	2,851	—	38,800	104,237
1989	284,936	270,811	3,772	43	10,310	232,491	227,150	2,407	2,934	—	52,445	156,682
1990	306,822	288,797	3,081	34	14,909	248,605	243,275	2,280	3,049	—	58,217	214,900
Estimated future experience:												
1991	322,817	300,429	5,500	–2,864	19,751	268,489	262,484	2,472	3,533	—	54,328	269,228
1992	347,193	317,601	5,657	19	23,916	287,635	281,488	2,725	3,422	—	59,558	328,785
1993	373,099	338,652	6,163	15	28,269	305,706	299,248	2,894	3,565	—	67,393	396,178
1994	401,344	361,828	6,672	12	32,833	323,623	316,896	3,020	3,708	—	77,721	473,899
1995	427,712	382,742	7,199	9	37,763	342,174	335,181	3,156	3,837	—	85,539	559,438
1996	458,230	407,295	7,761	–116	43,290	361,651	354,397	3,297	3,957	—	96,579	656,017
1997	489,775	431,942	8,345	5	49,483	382,277	374,770	3,444	4,064	—	107,498	763,515
1998	523,594	458,244	9,095	4	56,252	404,387	396,489	3,595	4,303	—	119,207	882,722
1999	559,631	486,129	9,964	3	63,535	428,117	419,892	3,753	4,472	—	131,513	1,014,235
2000	598,072	515,510	10,922	2	71,638	453,512	444,943	3,918	4,651	—	144,559	1,158,794

See following page for footnotes.

[1]Under the Congressional Budget Act of 1974 (Public Law 93-344), fiscal years 1977 and later consist of the 12 months ending on September 30 of each year. The act further provides that the calendar quarter July-September 1976 is a period of transition from fiscal year 1976, which ended on June 30, 1976, to fiscal year 1977, which began on October 1, 1976.

[2]Beginning in 1983, includes transfers from general fund of Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 and later, if such credits were considered to be covered wages. The amount shown for 1983 includes, in addition to the annual transfer for 1983 wage credits, a net amount of $5,790 million representing (1) retroactive transfers for deemed wage credits for military service in 1957-82, less (2) all reimbursements received prior to 1983 for the costs of such credits. An adjustment to these amounts totaling $528 million was transferred to the trust funds from the general fund of the Treasury in 1984.

[3]Includes payments (1) in 1947-52 and in 1967 and later, for costs of noncontributory wage credits for military service performed before 1957; (2) in 1972-83, for costs of deemed wage credits for military service performed after 1956; and (3) in 1969 and later, for costs of benefits to certain uninsured persons who attained age 72 before 1968.

[4]Net interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust funds on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in October 1973, the figures shown include relatively small amounts of gifts to the funds. Beginning in 1983, these figures reflect payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. During 1983-91, interest paid from the trust funds to the general fund of the Treasury on advance tax transfers is reflected. The amount shown for 1983 includes $7,337 million in interest on (1) retroactive general fund transfers for deemed wage credits for military service in 1957-82, and (2) unnegotiated benefit checks issued before 1983. The amount shown for 1984 includes an interest adjustment of $1,901 million on general fund transfers for deemed wage credits for military service in 1957-83. The amounts shown for 1985 and 1986 include interest adjustments of $91.3 million and $11.5 million, respectively, on unnegotiated checks issued before April 1985.

[5]Beginning in 1967, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks. The amount shown for 1983 is reduced by $336 million for all unnegotiated checks issued before 1983; reductions in subsequent years are relatively small.

[6]Positive figure represents amounts lent to the OASI Trust Fund from the HI Trust Fund. Negative figures represent amounts repaid from the OASI Trust Fund to the HI Trust Fund.

TABLE 23.—OPERATIONS OF THE OASI AND DI TRUST FUNDS, COMBINED, DURING SELECTED CALENDAR YEARS 1960-90 AND ESTIMATED FUTURE OPERATIONS DURING CALENDAR YEARS 1991-2000 ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

(In millions)

	Income					Disbursements						
Calendar year	Total	Net contributions[1]	Income from taxation of benefits	Payments from the general fund of the Treasury[2]	Net interest[3]	Total	Benefit payments[4]	Administrative expenses	Transfers to Railroad Retirement program	Interfund borrowing transfers[5]	Net increase in funds	Funds at end of period
Past experience:												
1960	$12,445	$11,876	—	—	$569	$11,798	$11,245	$240	$314	—	$647	$22,613
1965	17,857	17,205	—	—	651	19,187	18,311	418	459	—	–1,331	19,841
1970	36,993	34,737	—	$465	1,791	33,108	31,884	635	589	—	3,886	38,068
1975	67,640	64,259	—	515	2,866	69,184	67,022	1,152	1,010	—	–1,544	44,342
1980	119,712	116,711	—	670	2,330	123,550	120,598	1,522	1,430	—	–3,838	26,453
1981	142,438	139,364	—	843	2,231	144,352	140,995	1,743	1,614	—	–1,914	24,539
1982	147,913	145,667	—	854	1,391	160,111	156,182	2,109	1,820	$12,437	239	24,778
1983	171,266	156,328	—	6,662	8,276	171,177	166,744	2,153	2,279	—	89	24,867
1984	186,637	180,066	$3,025	105	3,440	180,429	175,739	2,264	2,426	—	6,208	31,075
1985	203,540	194,149	3,430	3,220	2 741	190 628	186,075	2,200	2,353	–1,824	11,088	42,163
1986	216,833	209,140	3,662	160	3,871	201,522	196,667	2,202	2,653	–10,613	4,698	46,861
1987	231,039	222,425	3,221	55	5,338	209,093	204,106	2,373	2,614	—	21,946	68,807
1988	263,469	251,814	3,445	43	8,168	222,514	217,149	2,513	2,851	—	40,955	109,762
1989	289,448	274,189	2,534	34	12,692	236,242	230,882	2,427	2,934	—	53,206	162,968
1990	315,443	296,070	4,992	–2,864	17,245	253,135	247,816	2,270	3,049	—	62,309	225,277
Estimated future experience:												
1991	330,088	302,877	5,275	19	21,917	273,436	267,342	2,561	3,533	—	56,653	281,929
1992	354,725	322,855	5,790	15	26,066	292,405	286,211	2,772	3,422	—	62,320	344,249
1993	379,590	342,776	6,288	12	30,514	310,058	303,565	2,928	3,565	—	69,532	413,781
1994	407,658	365,634	6,800	9	35,215	328,092	321,327	3,057	3,708	—	79,567	493,348
1995	435,596	387,945	7,332	–116	40,435	346,847	339,816	3,195	3,837	—	88,748	582,096
1996	466,701	412,489	7,905	5	46,302	366,595	359,301	3,337	3,957	—	100,106	682,202
1997	498,764	437,501	8,493	4	52,766	387,544	379,995	3,485	4,064	—	111,220	793,422
1998	533,189	464,086	9,298	3	59,803	410,019	402,078	3,639	4,303	—	123,170	916,591
1999	569,820	492,149	10,189	2	67,480	434,201	425,931	3,799	4,472	—	135,619	1,052,211
2000	609,509	522,421	11,169	2	75,917	460,012	451,395	3,966	4,651	—	149,496	1,201,706

See following page for footnotes.

[1]Beginning in 1983, includes transfers from general fund of Treasury representing contributions that would have been paid on deemed wage credits for military service in 1957 and later, if such credits were considered to be covered wages. The amount shown for 1983 includes, in addition to the annual transfer for 1983 wage credits, a net amount of $5,790 million representing (1) retroactive transfers for deemed wage credits for military service in 1957-82, less (2) all reimbursements received prior to 1983 for the costs of such credits. An adjustment to these amounts totaling $528 million was transferred to the trust funds from the general fund of the Treasury in 1984.

[2]Includes payments (1) in 1947-51 and in 1966 and later, for costs of noncontributory wage credits for military service performed before 1957; (2) in 1971-82, for costs of deemed wage credits for military service performed after 1956; and (3) in 1968 and later, for costs of benefits to certain uninsured persons who attained age 72 before 1968.

[3]'Net' interest includes net profits or losses on marketable investments. Beginning in 1967, administrative expenses are charged currently to the trust funds on an estimated basis, with a final adjustment, including interest, made in the following fiscal year. The amounts of these interest adjustments are included in net interest. For years prior to 1967, a description of the method of accounting for administrative expenses is contained in the 1970 Annual Report. Beginning in October 1973, the figures shown include relatively small amounts of gifts to the funds. Beginning in 1983, these figures reflect payments from a borrowing trust fund to a lending trust fund for interest on amounts owed under the interfund borrowing provisions. During 1983-90, interest paid from the trust funds to the general fund of the Treasury on advance tax transfers is reflected. The amount shown for 1983 includes $7,337 million in interest on (1) retroactive general fund transfers for deemed wage credits for military service in 1957-82, and (2) unnegotiated benefit checks issued before 1983. The amount shown for 1984 includes an interest adjustment of $1,901 million on general fund transfers for deemed wage credits for military service in 1957-83. The amount shown for 1985 includes an interest adjustment of $102.8 million on unnegotiated checks issued before April 1985.

[4]Beginning in 1966, includes payments for vocational rehabilitation services furnished to disabled persons receiving benefits because of their disabilities. Beginning in 1983, amounts are reduced by amount of reimbursement for unnegotiated benefit checks. The amount shown for 1983 is reduced by $336 million for all unnegotiated checks issued before 1983; reductions in subsequent years are relatively small.

[5]Positive figure represents amounts lent to the OASI Trust Fund from the HI Trust Fund. Negative figures represent amounts repaid from the OASI Trust Fund to the HI Trust Fund.

D. ACTUARIAL ANALYSIS OF BENEFIT DISBURSEMENTS FROM THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE TRUST FUND WITH RESPECT TO DISABLED BENEFICIARIES

(Required by section 201(c) of the Social Security Act)

Effective January 1957, monthly benefits have been payable from the OASI Trust Fund to disabled children aged 18 and over of retired and deceased workers in those cases for which the disability began before age 18. The age before which disability is required to have begun was subsequently changed to age 22. Effective February 1968, reduced monthly benefits have been payable from this trust fund to disabled widows and widowers at ages 50 and above.

On December 31, 1990, about 662,000 persons were receiving monthly benefits from the OASI Trust Fund because of their disabilities or the disabilities of children. This total includes 50,000 mothers and fathers (wives or husbands under age 65 of retired-worker beneficiaries and widows or widowers of deceased insured workers) who met all other qualifying requirements and were receiving unreduced benefits solely because they had disabled-child beneficiaries (or disabled children aged 16 or 17) in their care. Benefits paid from this trust fund to the persons described above totaled $2,875 million in calendar year 1990. Table 24 shows these and similar figures for selected calendar years during 1960-90, and estimated experience for 1991-2000.

TABLE 24.— BENEFIT DISBURSEMENTS FROM THE OASI TRUST FUND WITH RESPECT TO DISABLED BENEFICIARIES, SELECTED CALENDAR YEARS 1960-2000

(Beneficiaries in thousands; benefit payments in millions)

Calendar year	Disabled beneficiaries, end of year			Amount of benefit payments[1]		
	Total	Children[2]	Widows-widowers	Total	Children[2]	Widows-widowers[3]
Past experience:						
1960	117	117	—	$59	$59	—
1965	214	214	—	134	134	—
1970	316	281	36	301	260	$41
1975	435	376	58	664	560	104
1980	519	460	59	1,223	1,097	126
1981	527	473	54	1,421	1,296	125
1982	533	484	49	1,566	1,451	115
1983	550	504	46	1,691	1,581	110
1984	574	528	47	1,882	1,707	175
1985	594	547	47	2,043	1,860	183
1986	614	565	49	2,198	2,001	197
1987	629	580	49	2,314	2,111	203
1988	640	591	49	2,503	2,292	211
1989	651	602	49	2,669	2,448	221
1990	662	613	49	2,875	2,642	233
Estimated future experience:						
1991	683	632	51	3,157	2,903	254
1992	706	653	53	3,437	3,156	281
1993	730	675	56	3,712	3,402	310
1994	755	697	58	4,004	3,667	337
1995	779	719	60	4,318	3,951	367
1996	798	735	63	4,636	4,239	397
1997	818	752	66	4,969	4,535	435
1998	838	769	69	5,330	4,854	476
1999	859	787	72	5,720	5,200	520
2000	879	805	75	6,137	5,569	568

[1] Beginning in 1966, includes payments for vocational rehabilitation services.

[2] Also includes certain mothers and fathers (see text).

[3] In 1983 and prior years, reflects the offsetting effect of lower benefits payable to disabled widows and widowers who continue to receive benefits after attaining age 60 (62, for disabled widowers, prior to 1973) as compared to the higher nondisabled widow's and widower's benefits that would otherwise be payable.

Total benefit payments from the OASI Trust Fund with respect to disabled beneficiaries are estimated to increase from $3,157 million in calendar year 1991 to $6,137 million in calendar year 2000, based on alternative II.

In calendar year 1990, benefit payments (including expenditures for vocational rehabilitation services) with respect to disabled persons from the OASI Trust Fund and from the DI Trust Fund (including payments from the latter fund to all children and spouses of disabled-worker beneficiaries) totaled $27,710 million, of which $2,875 million, or 10.4 percent, represented payments from the OASI Trust Fund. These and similar figures for selected calendar years during 1960-90 and estimates for calendar years 1991-2000 are presented in table 25.

TABLE 25.—BENEFIT DISBURSEMENTS UNDER THE OASDI PROGRAM WITH RESPECT TO DISABLED BENEFICIARIES, BY TRUST FUND, SELECTED CALENDAR YEARS 1960-2000
[Amounts in millions]

Calendar year	Total[1]	DI Trust Fund[2]	OASI Trust Fund	
			Amount[3]	Percentage of total
Past experience:				
1960	$627	$568	$59	9.4
1965	1,707	1,573	134	7.9
1970	3,386	3,085	301	8.9
1975	9,169	8,505	664	7.2
1980	16,738	15,515	1,223	7.3
1981	18,613	17,192	1,421	7.6
1982	18,942	17,376	1,566	8.3
1983	19,215	17,524	1,691	8.8
1984	19,782	17,900	1,882	9.5
1985	20,879	18,836	2,043	9.8
1986	22,054	19,856	2,198	10.0
1987	22,841	20,527	2,314	10.1
1988	24,211	21,708	2,503	10.3
1989	25,581	22,911	2,669	10.4
1990	27,710	24,835	2,875	10.4
Estimated future experience:				
1991	30,294	27,137	3,157	10.4
1992	32,758	29,320	3,437	10.5
1993	35,015	31,303	3,712	10.6
1994	37,358	33,354	4,004	10.7
1995	39,993	35,675	4,318	10.8
1996	42,945	38,309	4,636	10.8
1997	46,211	41,242	4,969	10.8
1998	49,862	44,533	5,330	10.7
1999	53,920	48,200	5,720	10.6
2000	58,356	52,219	6,137	10.5

[1]Beginning in 1966, includes payments for vocational rehabilitation services.

[2]Benefit payments to disabled workers and their children and spouses.

[3]Benefit payments to disabled children aged 18 and over, to certain mothers and fathers (see text), and to disabled widows and widowers (see footnote 3, table 24).

E. ACTUARIAL STATUS OF THE TRUST FUNDS

Historically, the actuarial status of the OASDI program has been measured by the actuarial balance, as described earlier in this section. Recent annual reports have shown both medium-range and long-range actuarial balances, which have been computed, respectively, for the 25-year and 75-year valuation periods beginning with the calendar year of issuance of the report. Thus, the medium-range and long-range actuarial balances shown in this report, calculated on a present-value basis, pertain to the periods 1991-2015 and 1991-2065, respectively. Also presented is the actuarial balance for the first 50 years of the 75-year projection period.

Beginning with this year's annual report, actuarial balances are also presented based on the intermediate (alternative II) assumptions for valuation periods that are 11 years, 12 years, ... , 75 years in length. This series of actuarial balances provides the basis for the long-range test of close actuarial balance, described earlier in this section.

In addition to these actuarial balances, other indicators of the financial condition of the program are shown in this report. One is the series of projected annual balances (that is, the year-by-year differences between the projected income rates and cost rates), with particular attention being paid to the level of the annual balances at the end of the long-range period and the time at which the annual balances may change from positive to negative values. Another is the series of projected contingency fund ratios, with particular attention being paid to the amount and year of maximum fund ratio accumulation and to the year of exhaustion of the funds. These additional indicators are defined in the introduction to this section.

The estimates are sensitive to changes in the underlying economic and demographic assumptions. The degree of sensitivity, however, varies considerably among the various assumptions. For example, variations in assumed fertility rates have little effect on the estimates for the early years, because almost all of the covered workers and beneficiaries projected for the early years were born prior to the start of the projection period. However, lower fertility rates have large impacts on the actuarial balance in the later years. Variations in economic factors, such as interest rates and increases in wages and prices, have significant effects on the estimates for the short term, as well as for the long term. In general, the degree of confidence that can be placed in the assumptions and estimates is greater for the earlier years than for the later years. Nonetheless, even for the earlier years, the estimates are only an indication of the expected trend and general range of future program experience. Appendix B contains a more detailed discussion of the effects on the estimates of varying certain economic and demographic assumptions.

Table 26 presents a comparison of the estimated annual income rates and cost rates by trust fund and alternative. As previously mentioned, the annual income rate excludes net interest income, as well as certain other transfers from the general fund of the Treasury. Detailed long-range projections of trust fund operations, in nominal dollar amounts, are shown in Appendix F.

The projections for OASDI under the intermediate alternative II assumptions shows income rates that increase slowly and steadily due to the combination of the flat payroll tax rate and the gradually increasing effect of the taxation of benefits. The pattern followed by the cost rates is much different. Costs as a percent of taxable payroll are projected to be relatively stable for about 15 years and then to increase rather rapidly for the next 30 years (through 2035) as the baby-boom generation reaches retirement age. Cost rates decline slightly for about the next 10 years as the baby-boom generation ages and the relatively small birth cohorts of the 1970s reach retirement age. Thereafter, cost rates rise steadily reflecting projected increases in life expectancy. The cost rates during the third 25-year subperiod rise to a level exceeding 17 percent of taxable payroll under the intermediate alternative II assumptions. The income rate during the third 25-year subperiod rises to just over 13 percent of taxable payroll under alternative II.

The projected pattern of the OASDI annual balances (that is, the difference between the income rates and the cost rates) is important in the analysis of the financial condition of the program. Under the alternative II assumptions the annual balances are positive for 26 years (through 2016) and are negative thereafter. This annual deficit rises rapidly reaching 2 percent of taxable payroll before 2025 and continues rising thereafter, to a level of 4.52 percent of taxable payroll for 2065.

TABLE 26.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1991-2065
[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
1991	11.40	9.91	1.50	1.21	1.12	0.09	12.61	11.03	1.59
1992	11.41	9.90	1.51	1.21	1.11	.10	12.62	11.01	1.61
1993	11.41	9.72	1.69	1.21	1.08	.12	12.62	10.80	1.82
1994	11.41	9.56	1.85	1.21	1.06	.15	12.62	10.63	2.00
1995	11.37	9.38	1.98	1.21	1.04	.16	12.57	10.43	2.14
1996	11.41	9.22	2.20	1.21	1.03	.18	12.62	10.25	2.37
1997	11.41	9.06	2.36	1.21	1.03	.18	12.62	10.08	2.54
1998	11.42	8.91	2.51	1.21	1.02	.18	12.63	9.94	2.69
1999	11.42	8.78	2.64	1.21	1.03	.18	12.63	9.81	2.82
2000	11.21	8.66	2.55	1.43	1.03	.40	12.64	9.69	2.94
2005	11.26	8.35	2.91	1.43	1.11	.32	12.70	9.47	3.23
2010	11.32	8.51	2.81	1.44	1.26	.18	12.76	9.77	3.00
2015	11.37	9.28	2.09	1.45	1.35	.09	12.82	10.64	2.18
2020	11.44	10.44	1.00	1.45	1.40	.05	12.89	11.83	1.06
2025	11.49	11.37	.12	1.45	1.44	.01	12.94	12.81	.13
2030	11.53	11.84	−.32	1.45	1.43	.03	12.98	13.27	−.29
2035	11.53	11.81	−.27	1.45	1.38	.07	12.98	13.19	−.20
2040	11.52	11.41	.11	1.45	1.37	.08	12.97	12.78	.19
2045	11.51	11.04	.47	1.45	1.40	.05	12.96	12.44	.52
2050	11.50	10.87	.64	1.45	1.42	.04	12.96	12.28	.67
2055	11.51	10.87	.64	1.45	1.42	.03	12.96	12.29	.67
2060	11.51	10.91	.60	1.45	1.41	.05	12.96	12.32	.65
2065	11.51	10.89	.62	1.45	1.40	.05	12.96	12.29	.68
Alternative II:									
1991	11.41	9.96	1.44	1.21	1.14	.07	12.61	11.10	1.51
1992	11.41	10.03	1.39	1.21	1.16	.05	12.62	11.18	1.44
1993	11.42	9.98	1.44	1.21	1.16	.05	12.63	11.14	1.48
1994	11.42	9.93	1.49	1.21	1.16	.04	12.63	11.10	1.53
1995	11.42	9.86	1.56	1.21	1.17	.04	12.63	11.04	1.59
1996	11.43	9.80	1.63	1.21	1.19	.02	12.64	10.99	1.65
1997	11.43	9.74	1.69	1.21	1.20	.01	12.64	10.94	1.69
1998	11.44	9.69	1.74	1.21	1.22	−.01	12.65	10.92	1.73
1999	11.45	9.65	1.80	1.21	1.25	−.04	12.66	10.90	1.76
2000	11.23	9.61	1.63	1.43	1.27	.16	12.66	10.88	1.79

TABLE 26.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1991-2065 (Cont.)
[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative II: (Cont.)									
2005	11.30	9.51	1.80	1.44	1.39	0.05	12.74	10.90	1.85
2010	11.38	9.73	1.64	1.45	1.58	–.13	12.82	11.31	1.51
2015	11.44	10.71	.73	1.45	1.72	–.26	12.89	12.42	.47
2020	11.52	12.17	–.65	1.46	1.79	–.33	12.98	13.96	–.98
2025	11.60	13.52	–1.92	1.46	1.86	–.40	13.06	15.38	–2.32
2030	11.65	14.44	–2.79	1.46	1.87	–.40	13.11	16.31	–3.19
2035	11.68	14.81	–3.13	1.46	1.84	–.37	13.14	16.65	–3.50
2040	11.68	14.73	–3.05	1.46	1.84	–.38	13.15	16.58	–3.43
2045	11.68	14.62	–2.94	1.46	1.92	–.46	13.15	16.54	–3.40
2050	11.69	14.75	–3.06	1.47	1.97	–.50	13.16	16.72	–3.56
2055	11.71	15.11	–3.39	1.47	1.99	–.53	13.18	17.10	–3.92
2060	11.74	15.51	–3.77	1.47	1.97	–.51	13.20	17.48	–4.28
2065	11.75	15.77	–4.02	1.47	1.96	–.50	13.22	17.74	–4.52
Alternative III:									
1991	11.41	10.11	1.30	1.21	1.17	.04	12.62	11.28	1.34
1992	11.42	10.47	.96	1.21	1.24	–.03	12.63	11.71	.93
1993	11.43	10.45	.98	1.21	1.26	–.05	12.64	11.71	.93
1994	11.44	10.59	.84	1.21	1.30	–.09	12.65	11.89	.75
1995	11.45	10.94	.51	1.21	1.37	–.16	12.66	12.31	.35
1996	11.45	10.82	.63	1.21	1.40	–.19	12.66	12.22	.45
1997	11.45	10.75	.70	1.21	1.43	–.22	12.67	12.18	.48
1998	11.46	10.71	.75	1.21	1.48	–.27	12.67	12.19	.49
1999	11.47	10.72	.75	1.21	1.53	–.32	12.69	12.25	.44
2000	11.26	10.74	.52	1.43	1.59	–.16	12.70	12.33	.37
2005	11.35	10.75	.61	1.44	1.73	–.29	12.80	12.48	.32
2010	11.44	10.99	.45	1.46	1.96	–.50	12.89	12.94	–.05
2015	11.51	12.10	–.59	1.46	2.15	–.69	12.97	14.25	–1.27
2020	11.60	13.84	–2.24	1.47	2.26	–.79	13.07	16.10	–3.03
2025	11.70	15.62	–3.91	1.47	2.38	–.91	13.17	18.00	–4.82
2030	11.78	17.09	–5.31	1.47	2.42	–.94	13.26	19.51	–6.25
2035	11.84	18.09	–6.25	1.48	2.42	–.95	13.32	20.51	–7.19
2040	11.87	18.63	–6.76	1.48	2.48	–1.01	13.35	21.11	–7.76
2045	11.90	19.14	–7.24	1.48	2.63	–1.15	13.39	21.78	–8.39
2050	11.95	19.97	–8.02	1.48	2.74	–1.26	13.43	22.71	–9.28
2055	12.01	21.13	–9.12	1.49	2.80	–1.32	13.49	23.93	–10.44
2060	12.07	22.36	–10.29	1.49	2.77	–1.29	13.56	25.13	–11.58
2065	12.12	23.34	–11.22	1.49	2.76	–1.27	13.60	26.10	–12.50

Note: Totals do not necessarily equal the sums of rounded components.

Table 27 summarizes, on a present-value basis, the projected annual figures presented in the previous table for several useful periods. Summarized values have been useful in analyzing the financial condition of the program under present law and the financial effects of proposed modifications to the law. However, because any form of summarization involves choices of what to include and exclude, it is important to recognize that these values do not uniquely determine the status of the program or the financial effect of proposed modifications to it.

Table 27 first shows rates on a present-value basis summarized for each of the 25-year subperiods, excluding the funds on hand at the beginning of the period and the cost of reaching a trust fund target by the end of the period. The table next shows summarized rates including the funds on hand and the cost of reaching a target trust fund balance equal to 100 percent of annual expenditures by the end of the period for valuation periods of the first 25 years, the first 50 years, and the entire 75-year period. Therefore, the actuarial balance for each of these three valuation periods is equal to the difference between the summarized income rates and cost rates for the corresponding periods.

The values in table 27 show that the program is expected to operate with a positive balance over shorter valuation periods. For the first 25-year valuation period the summarizing values indicate positive balances of 2.62 percent of taxable payroll under alternative I, 1.47 percent under alternative II, and 0.11 percent under alternative III. Thus, the program is more than adequately financed for the next 25-year valuation period under all three projections. Over a 50-year valuation period, 1991-2040, the OASDI program would have a positive balance of 1.60 percent under alternative I but would have deficits of 0.21 percent under alternative II and 2.27 percent under alternative III. Thus, the program is more than adequately financed for the next 50-year valuation period under only the most optimistic set of assumptions.

For the entire 75-year valuation period, the program would again have actuarial deficits except for the most optimistic set of assumptions, alternative I. The actuarial balance for this long-range valuation period is projected to be 1.34 percent of taxable payroll under alternative I, to be −1.08 percent of taxable payroll under alternative II and to be −4.12 percent of taxable payroll under alternative III.

TABLE 27.—COMPARISON OF SUMMARIZED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1991-2065

[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
25-year subperiods:[1]									
1991-2015	11.32	8.92	2.40	1.34	1.14	0.20	12.66	10.06	2.60
2016-2040	11.48	11.22	.26	1.44	1.41	.04	12.92	12.62	.30
2041-2065	11.50	10.98	.52	1.45	1.41	.04	12.94	12.39	.55
Valuation periods:[2]									
25 years: 1991-2015	11.72	9.27	2.45	1.37	1.19	.17	13.09	10.46	2.62
50 years: 1991-2040	11.61	10.14	1.48	1.40	1.28	.12	13.01	11.42	1.60
75 years: 1991-2065	11.58	10.34	1.25	1.41	1.31	.10	13.00	11.65	1.34
Alternative II:									
25-year subperiods:[1]									
1991-2015	11.35	9.83	1.52	1.35	1.37	−.02	12.69	11.20	1.49
2016-2040	11.59	13.57	−1.99	1.45	1.83	−.38	13.04	15.41	−2.37
2041-2065	11.69	15.07	−3.38	1.46	1.96	−.50	13.15	17.03	−3.88
Valuation periods:[2]									
25 years: 1991-2015	11.77	10.23	1.54	1.37	1.43	−.07	13.14	11.67	1.47
50 years: 1991-2040	11.69	11.70	−.01	1.41	1.60	−.20	13.10	13.30	−.21
75 years: 1991-2065	11.69	12.51	−.82	1.42	1.69	−.27	13.11	14.19	−1.08
Alternative III:									
25-year subperiods:[1]									
1991-2015	11.38	10.89	.49	1.35	1.66	−.31	12.73	12.55	.19
2016-2040	11.71	16.03	−4.33	1.46	2.37	−.90	13.17	18.40	−5.23
2041-2065	11.96	20.71	−8.74	1.48	2.72	−1.25	13.44	23.43	−9.99
Valuation periods:[2]									
25 years: 1991-2015	11.83	11.35	.48	1.37	1.74	−.37	13.20	13.09	.11
50 years: 1991-2040	11.77	13.45	−1.67	1.41	2.01	−.60	13.19	15.46	−2.27
75 years: 1991-2065	11.82	15.19	−3.37	1.43	2.18	−.75	13.25	17.37	−4.12

[1] Income rates do not include beginning trust fund balances and cost rates do not include the cost of reaching ending fund targets.

[2] Income rates include beginning trust fund balances and cost rates include the cost of reaching an ending fund target equal to 100 percent of annual expenditures by the end of the period.

Note: Totals do not necessarily equal the sums of rounded components.

Also of interest are the long-range financial conditions of the separate OASI and DI programs. As may be concluded from tables 26, 27, and 28, the OASI program is in much better financial condition than the DI

program. The OASI program is projected to have a positive actuarial balance of 1.54 percent of taxable payroll for the 25-year valuation period under alternative II while the DI program would have a deficit of 0.07 percent for the same period. Both programs are projected to have actuarial deficits for the 50-year and 75-year valuation periods under the alternative II assumptions, but the deficits for DI are much larger when expressed as a percentage of the summarized cost rates.

Tables 26 and 27 also illustrate the range of possible long-range costs and actuarial balances. For OASI, the cost rate projected for 2065 ranges from a low of 10.89 percent of taxable payroll under alternative I to a high of 23.34 percent of taxable payroll under alternative III. The balances for that year are projected to range from a positive balance of 0.62 percent under alternative I to a deficit of 11.22 percent under alternative III. The summarized cost rate for the full 75-year valuation period ranges from a low of 10.34 percent under alternative I to a high of 15.19 percent under alternative III. The long-range actuarial balances for the entire 75-year period range from a positive balance of 1.25 percent under alternative I to a deficit of 3.37 percent of taxable payroll under alternative III.

The spread in the DI cost for 2065 is from a low of 1.40 percent of taxable payroll under alternative I to a high of 2.76 percent of taxable payroll under alternative III. The summarized cost rate for the 75-year period ranges from a low of 1.31 percent of taxable payroll under alternative I to a high of 2.18 percent of taxable payroll under alternative III. The DI long-range actuarial balance ranges from a positive balance of 0.10 percent of taxable payroll under alternative I to a deficit of 0.75 percent of taxable payroll under alternative III.

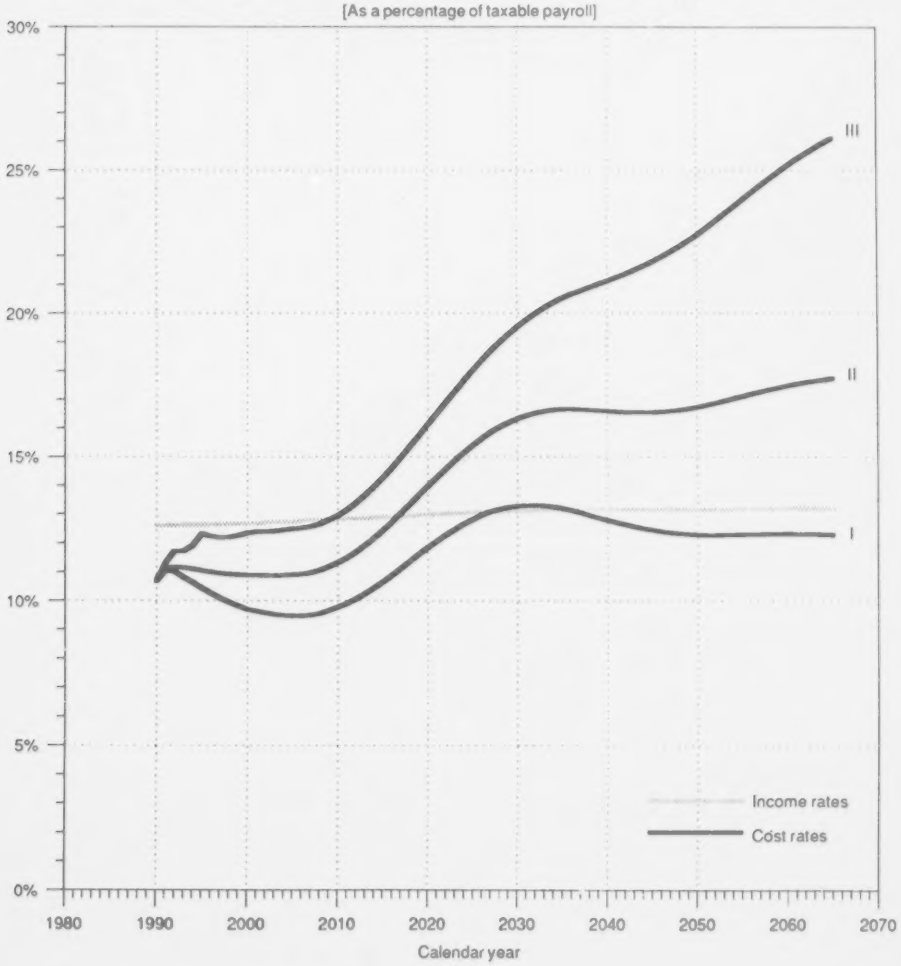
The spread between the lowest and highest projected annual cost rates and balances grows wider as the projections move further into the future. For OASDI the projected spread of cost rates in 2000 is 2.64 percent of taxable payoll (from 9.69 percent to 12.33 percent for alternatives I and III, respectively). By 2025 the spread is projected to increase to 5.19 percent of taxable payroll (from 12.81 percent to 18.00 percent) and by 2050 it is 10.43 percent of taxable payroll (from 12.28 percent to 22.71 percent). Because of the increasing uncertainty in projections of costs and revenues for the more distant future, the Board recommends caution in using the specific values projected for the long-range period.

Figure 3 shows in graphical form the patterns of the OASDI annual income rates and cost rates. The income rates are shown only for alternative II in order to simplify the graphical presentation and because, as shown in table 26, the variation in the income rates by alternative is very small. The OASDI long-range summarized income rates for alternatives I and III, for the 75-year valuation period differ by only 0.25 percent of taxable payroll. By 2065, the income rates for each year, under alternatives I and III, differ by only 0.64 percent of taxable payroll. Only small fluctuations are projected in the income rate, as the rate of income from taxation of benefits varies only slightly, for each alternative, reflecting changes in the cost rate and the fact that benefit-taxation threshold amounts are not indexed.

The patterns of the annual balances are indicated in figure 3. For each alternative, the magnitude of each of the positive balances in the early years, as a percent of taxable payroll, is represented by the distance between the appropriate cost-rate curve and the income-rate curve above it. The magnitude of each of the deficits in subsequent years is represented by the distance between the appropriate cost-rate curve and the income-rate curve below it.

In the future, the cost of the OASDI program, as a percent of taxable payroll, will not necessarily be within the range encompassed by alternatives I and III. Nonetheless, because alternatives I and III define a reasonably wide range of economic and demographic conditions, the resulting estimates delineate a reasonable range for future program costs.

FIGURE 3.—ESTIMATED OASDI INCOME RATES AND COST RATES BY ALTERNATIVE, CALENDAR YEARS 1990-2065



Beginning with this year's annual report, a new test for long-range close actuarial balance is being introduced. This test incorporates a graduated tolerance scale which allows larger actuarial deficits for longer valuation periods, reflecting greater uncertainty in the estimates for later years. The nature of this test, and its relationship with the new short-range test of the financial condition of the program, were discussed earlier in this section. Table 28 presents a comparison of the estimated actuarial balances with the minimum allowable balance (or maximum allowable deficit) under the long-range test, each expressed as a percentage of the summarized cost rate, based on the intermediate alternative II estimates. These minimum allowable balances are calculated to show the limit for each valuation period resulting from the graduated tolerance scale. The patterns in the estimated balances as a percentage of the summarized cost rates as well as that for the minimum allowable balance is presented graphically in figure 4, for the OASI, DI and combined OASDI programs.

As discussed earlier, a program is found not to be in long-range close actuarial balance if, for any of the valuation periods ending with the 11th through 75th years of the projection period, the estimated actuarial balance is less than the minimum allowable balance. The minimum allowable balance as a percentage of the summarized cost rate is -5.0 percent for the full 75-year long-range period and is graduated for shorter valuation periods, approaching 0 percent as the valuation periods approach the 10-year short-range period.

For the OASI program, the estimated actuarial balance as a percentage of the summarized cost rate exceeds the minimum allowable for valuation periods of length 11 years through 64 years, under the intermediate alternative II estimates. For valuation periods of length greater than 64 years, the estimated actuarial balance is less than the minimum allowable. The shortfall rises gradually, reaching 1.55 percent of the summarized cost rate for the full long-range valuation period. Thus, although the OASI program satisfies the short-range test of financial adequacy (as discussed earlier in this section), it is not in long-range close actuarial balance.

For the DI program, the estimated actuarial balance as a percentage of the summarized cost rate is less than the minimum allowable balance for each of the 65 separate valuation periods. The shortfall rises from 2.19 percent of the summarized cost rate for the 11-year valuation period to a level of 10.98 percent of the summarized cost rate for the full long-range period. Thus, the DI program is out of long-range close actuarial balance, in addition to the fact that it does not satisfy the short-range test

of financial adequacy (as discussed earlier in this section).

For the combined OASDI program, the estimated actuarial balance as a percentage of the summarized cost rate exceeds the minimum allowable balance for valuation periods of length 11 years through 57 years. For valuation periods of length greater than 57 years, the estimated actuarial balance is below the minimum allowable balance. The size of the shortfall rises gradually reaching 2.61 percent of the summarized cost rate for the full 75-year long-range valuation period. Thus, although the OASDI program satisfies the short-range test of financial adequacy (as discussed earlier in this section), it is out of long-range close actuarial balance.

TABLE 28.—COMPARISON OF ESTIMATED LONG-RANGE ACTUARIAL BALANCES WITH THE MINIMUM ALLOWABLE FOR THE TEST FOR CLOSE ACTUARIAL BALANCE BY TRUST FUND, BASED ON ALTERNATIVE II

Calendar year period	Rates (percentage of taxable payroll)			Balance as a percentage of cost rate	
	Summarized income rate	Summarized cost rate	Balance	Balance	Minimum allowable balance
OASI:					
11 years: 1991-2001	12.27	10.68	1.59	14.89	-0.08
12 years: 1991-2002	12.19	10.58	1.61	15.22	-.15
13 years: 1991-2003	12.12	10.50	1.62	15.43	-.23
14 years: 1991-2004	12.07	10.43	1.63	15.63	-.31
15 years: 1991-2005	12.02	10.37	1.64	15.81	-.38
16 years: 1991-2006	11.98	10.32	1.65	15.99	-.46
17 years: 1991-2007	11.94	10.28	1.66	16.15	-.54
18 years: 1991-2008	11.91	10.24	1.67	16.31	-.62
19 years: 1991-2009	11.88	10.22	1.67	16.34	-.69
20 years: 1991-2010	11.86	10.20	1.66	16.27	-.77
21 years: 1991-2011	11.84	10.19	1.65	16.19	-.85
22 years: 1991-2012	11.82	10.19	1.63	16.00	-.92
23 years: 1991-2013	11.80	10.19	1.61	15.80	-1.00
24 years: 1991-2014	11.79	10.21	1.58	15.48	-1.08
25 years: 1991-2015	11.77	10.23	1.54	15.05	-1.15
26 years: 1991-2016	11.76	10.27	1.49	14.51	-1.23
27 years: 1991-2017	11.75	10.31	1.44	13.97	-1.31
28 years: 1991-2018	11.74	10.35	1.39	13.43	-1.38
29 years: 1991-2019	11.73	10.40	1.33	12.79	-1.46
30 years: 1991-2020	11.73	10.46	1.27	12.14	-1.54
31 years: 1991-2021	11.72	10.52	1.20	11.41	-1.62
32 years: 1991-2022	11.72	10.59	1.13	10.67	-1.69
33 years: 1991-2023	11.71	10.65	1.06	9.95	-1.77
34 years: 1991-2024	11.71	10.72	.99	9.24	-1.85
35 years: 1991-2025	11.71	10.79	.92	8.53	-1.92
36 years: 1991-2026	11.70	10.86	.84	7.73	-2.00
37 years: 1991-2027	11.70	10.93	.77	7.04	-2.08
38 years: 1991-2028	11.70	11.00	.70	6.36	-2.15
39 years: 1991-2029	11.70	11.07	.63	5.69	-2.23
40 years: 1991-2030	11.70	11.14	.56	5.03	-2.31
41 years: 1991-2031	11.70	11.21	.49	4.37	-2.38
42 years: 1991-2032	11.70	11.27	.42	3.73	-2.46
43 years: 1991-2033	11.69	11.33	.36	3.18	-2.54
44 years: 1991-2034	11.69	11.39	.30	2.63	-2.62
45 years: 1991-2035	11.69	11.45	.24	2.10	-2.69
46 years: 1991-2036	11.69	11.51	.19	1.65	-2.77
47 years: 1991-2037	11.69	11.56	.13	1.12	-2.85
48 years: 1991-2038	11.69	11.61	.08	.69	-2.92
49 years: 1991-2039	11.69	11.66	.03	.26	-3.00
50 years: 1991-2040	11.69	11.70	-.01	-.09	-3.08
51 years: 1991-2041	11.69	11.74	-.05	-.43	-3.15
52 years: 1991-2042	11.69	11.79	-.09	-.76	-3.23
53 years: 1991-2043	11.69	11.82	-.13	-1.10	-3.31
54 years: 1991-2044	11.69	11.86	-.17	-1.43	-3.38
55 years: 1991-2045	11.69	11.90	-.21	-1.76	-3.46
56 years: 1991-2046	11.69	11.93	-.24	-2.01	-3.54
57 years: 1991-2047	11.69	11.96	-.27	-2.26	-3.62
58 years: 1991-2048	11.69	12.00	-.31	-2.58	-3.69
59 years: 1991-2049	11.69	12.03	-.34	-2.83	-3.77
60 years: 1991-2050	11.69	12.06	-.37	-3.07	-3.85
61 years: 1991-2051	11.69	12.09	-.40	-3.31	-3.92
62 years: 1991-2052	11.69	12.12	-.43	-3.55	-4.00
63 years: 1991-2053	11.69	12.15	-.46	-3.79	-4.08
64 years: 1991-2054	11.69	12.18	-.50	-4.11	-4.15
65 years: 1991-2055	11.69	12.21	-.53	-4.34	-4.23
66 years: 1991-2056	11.69	12.25	-.56	-4.57	-4.31
67 years: 1991-2057	11.69	12.28	-.59	-4.80	-4.38
68 years: 1991-2058	11.69	12.31	-.62	-5.04	-4.46
69 years: 1991-2059	11.69	12.34	-.65	-5.27	-4.54
70 years: 1991-2060	11.69	12.36	-.68	-5.50	-4.62
71 years: 1991-2061	11.69	12.39	-.70	-5.65	-4.69
72 years: 1991-2062	11.69	12.42	-.73	-5.88	-4.77
73 years: 1991-2063	11.69	12.45	-.76	-6.10	-4.85
74 years: 1991-2064	11.69	12.48	-.79	-6.33	-4.92
75 years: 1991-2065	11.69	12.51	-.82	-6.55	-5.00

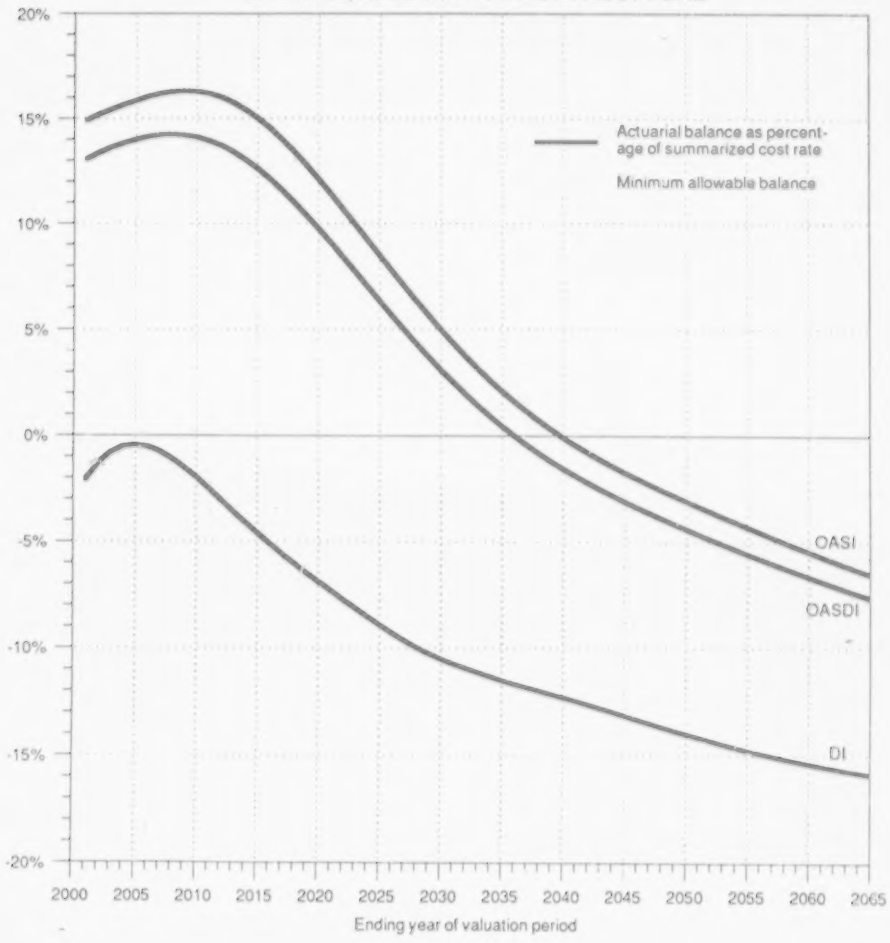
TABLE 28.—COMPARISON OF ESTIMATED LONG-RANGE ACTUARIAL BALANCES WITH THE MINIMUM ALLOWABLE FOR THE TEST FOR CLOSE ACTUARIAL BALANCE BY TRUST FUND, BASED ON ALTERNATIVE II (Cont.)

Calendar year period	Rates (percentage of taxable payroll)			Balance as a percentage of cost rate	
	Summarized income rate	Summarized cost rate	Balance	Balance	Minimum allowable balance
DI:					
11 years: 1991-2001	1.29	1.32	-0.03	-2.27	-0.08
12 years: 1991-2002	1.30	1.32	-.02	-1.52	-.15
13 years: 1991-2003	1.31	1.32	-.01	-.76	-.23
14 years: 1991-2004	1.32	1.32	-.01	-.76	-.31
15 years: 1991-2005	1.32	1.33	-.01	-.75	-.38
16 years: 1991-2006	1.33	1.34	-.01	-.75	-.46
17 years: 1991-2007	1.34	1.35	-.01	-.74	-.54
18 years: 1991-2008	1.34	1.36	-.01	-.74	-.62
19 years: 1991-2009	1.35	1.37	-.02	-1.46	-.69
20 years: 1991-2010	1.35	1.38	-.03	-2.17	-.77
21 years: 1991-2011	1.35	1.39	-.03	-2.16	-.85
22 years: 1991-2012	1.36	1.40	-.04	-2.86	-.92
23 years: 1991-2013	1.36	1.41	-.05	-3.55	-1.00
24 years: 1991-2014	1.37	1.42	-.06	-4.23	-1.08
25 years: 1991-2015	1.37	1.43	-.07	-4.90	-1.15
26 years: 1991-2016	1.37	1.44	-.07	-4.86	-1.23
27 years: 1991-2017	1.37	1.45	-.08	-5.52	-1.31
28 years: 1991-2018	1.38	1.46	-.09	-6.16	-1.38
29 years: 1991-2019	1.38	1.47	-.10	-6.80	-1.46
30 years: 1991-2020	1.38	1.48	-.10	-6.76	-1.54
31 years: 1991-2021	1.38	1.49	-.11	-7.38	-1.62
32 years: 1991-2022	1.38	1.50	-.12	-8.00	-1.69
33 years: 1991-2023	1.39	1.51	-.12	-7.95	-1.77
34 years: 1991-2024	1.39	1.52	-.13	-8.55	-1.85
35 years: 1991-2025	1.39	1.52	-.14	-9.21	-1.92
36 years: 1991-2026	1.39	1.53	-.14	-9.15	-2.00
37 years: 1991-2027	1.39	1.54	-.15	-9.74	-2.08
38 years: 1991-2028	1.39	1.55	-.15	-9.68	-2.15
39 years: 1991-2029	1.39	1.55	-.16	-10.32	-2.23
40 years: 1991-2030	1.40	1.56	-.16	-10.26	-2.31
41 years: 1991-2031	1.40	1.56	-.17	-10.90	-2.38
42 years: 1991-2032	1.40	1.57	-.17	-10.83	-2.46
43 years: 1991-2033	1.40	1.57	-.18	-11.46	-2.54
44 years: 1991-2034	1.40	1.58	-.18	-11.39	-2.62
45 years: 1991-2035	1.40	1.58	-.18	-11.39	-2.69
46 years: 1991-2036	1.40	1.59	-.19	-11.95	-2.77
47 years: 1991-2037	1.40	1.59	-.19	-11.95	-2.85
48 years: 1991-2038	1.40	1.59	-.19	-11.95	-2.92
49 years: 1991-2039	1.40	1.60	-.19	-11.88	-3.00
50 years: 1991-2040	1.41	1.60	-.20	-12.50	-3.08
51 years: 1991-2041	1.41	1.61	-.20	-12.42	-3.15
52 years: 1991-2042	1.41	1.61	-.20	-12.42	-3.23
53 years: 1991-2043	1.41	1.61	-.21	-13.04	-3.31
54 years: 1991-2044	1.41	1.62	-.21	-12.96	-3.38
55 years: 1991-2045	1.41	1.62	-.21	-12.96	-3.46
56 years: 1991-2046	1.41	1.63	-.22	-13.50	-3.54
57 years: 1991-2047	1.41	1.63	-.22	-13.50	-3.62
58 years: 1991-2048	1.41	1.63	-.22	-13.50	-3.69
59 years: 1991-2049	1.41	1.64	-.23	-14.02	-3.77
60 years: 1991-2050	1.41	1.64	-.23	-14.02	-3.85
61 years: 1991-2051	1.41	1.65	-.23	-13.94	-3.92
62 years: 1991-2052	1.41	1.65	-.24	-14.55	-4.00
63 years: 1991-2053	1.41	1.65	-.24	-14.55	-4.08
64 years: 1991-2054	1.41	1.66	-.24	-14.46	-4.15
65 years: 1991-2055	1.41	1.66	-.25	-15.06	-4.23
66 years: 1991-2056	1.41	1.66	-.25	-15.06	-4.31
67 years: 1991-2057	1.42	1.67	-.25	-14.97	-4.38
68 years: 1991-2058	1.42	1.67	-.25	-14.97	-4.46
69 years: 1991-2059	1.42	1.67	-.26	-15.57	-4.54
70 years: 1991-2060	1.42	1.67	-.26	-15.57	-4.62
71 years: 1991-2061	1.42	1.68	-.26	-15.48	-4.69
72 years: 1991-2062	1.42	1.68	-.26	-15.48	-4.77
73 years: 1991-2063	1.42	1.68	-.26	-15.48	-4.85
74 years: 1991-2064	1.42	1.68	-.27	-16.07	-4.92
75 years: 1991-2065	1.42	1.69	-.27	-15.98	-5.00

TABLE 28.—COMPARISON OF ESTIMATED LONG-RANGE ACTUARIAL BALANCES WITH THE MINIMUM ALLOWABLE FOR THE TEST FOR CLOSE ACTUARIAL BALANCE BY TRUST FUND, BASED ON ALTERNATIVE II (Cont.)

Calendar year period	Rates (percentage of taxable payroll)			Balance as a percentage of cost rate	
	Summarized income rate	Summarized cost rate	Balance	Balance	Minimum allowable balance
OASDI:					
11 years: 1991-2001	13.56	11.99	1.57	13.09	-0.08
12 years: 1991-2002	13.49	11.90	1.59	13.36	-.15
13 years: 1991-2003	13.43	11.82	1.61	13.62	-.23
14 years: 1991-2004	13.38	11.76	1.63	13.86	-.31
15 years: 1991-2005	13.34	11.70	1.64	14.02	-.38
16 years: 1991-2006	13.31	11.66	1.65	14.15	-.46
17 years: 1991-2007	13.28	11.62	1.65	14.20	-.54
18 years: 1991-2008	13.25	11.60	1.65	14.22	-.62
19 years: 1991-2009	13.23	11.58	1.65	14.25	-.69
20 years: 1991-2010	13.21	11.57	1.63	14.09	-.77
21 years: 1991-2011	13.19	11.58	1.61	13.90	-.85
22 years: 1991-2012	13.18	11.59	1.59	13.72	-.92
23 years: 1991-2013	13.16	11.61	1.56	13.44	-1.00
24 years: 1991-2014	13.15	11.63	1.52	13.07	-1.08
25 years: 1991-2015	13.14	11.67	1.47	12.60	-1.15
26 years: 1991-2016	13.13	11.71	1.42	12.13	-1.23
27 years: 1991-2017	13.12	11.76	1.36	11.56	-1.31
28 years: 1991-2018	13.12	11.82	1.30	11.00	-1.38
29 years: 1991-2019	13.11	11.88	1.23	10.35	-1.46
30 years: 1991-2020	13.11	11.94	1.16	9.72	-1.54
31 years: 1991-2021	13.10	12.01	1.09	9.08	-1.62
32 years: 1991-2022	13.10	12.09	1.02	8.44	-1.69
33 years: 1991-2023	13.10	12.16	.94	7.73	-1.77
34 years: 1991-2024	13.10	12.24	.86	7.03	-1.85
35 years: 1991-2025	13.10	12.31	.78	6.34	-1.92
36 years: 1991-2026	13.09	12.39	.70	5.65	-2.00
37 years: 1991-2027	13.09	12.47	.62	4.97	-2.08
38 years: 1991-2028	13.09	12.55	.55	4.38	-2.15
39 years: 1991-2029	13.09	12.62	.47	3.72	-2.23
40 years: 1991-2030	13.09	12.70	.39	3.07	-2.31
41 years: 1991-2031	13.09	12.77	.32	2.51	-2.38
42 years: 1991-2032	13.09	12.84	.25	1.95	-2.46
43 years: 1991-2033	13.09	12.91	.18	1.39	-2.54
44 years: 1991-2034	13.09	12.97	.12	.93	-2.62
45 years: 1991-2035	13.09	13.04	.06	.46	-2.69
46 years: 1991-2036	13.09	13.09	.00	.00	-2.77
47 years: 1991-2037	13.10	13.15	-.06	-.46	-2.85
48 years: 1991-2038	13.10	13.20	-.11	-.83	-2.92
49 years: 1991-2039	13.10	13.26	-.16	-1.21	-3.00
50 years: 1991-2040	13.10	13.30	-.21	-1.58	-3.08
51 years: 1991-2041	13.10	13.35	-.25	-1.87	-3.15
52 years: 1991-2042	13.10	13.40	-.30	-2.24	-3.23
53 years: 1991-2043	13.10	13.44	-.34	-2.53	-3.31
54 years: 1991-2044	13.10	13.48	-.38	-2.82	-3.38
55 years: 1991-2045	13.10	13.52	-.42	-3.11	-3.46
56 years: 1991-2046	13.10	13.56	-.46	-3.39	-3.54
57 years: 1991-2047	13.10	13.59	-.49	-3.61	-3.62
58 years: 1991-2048	13.10	13.63	-.53	-3.89	-3.69
59 years: 1991-2049	13.10	13.67	-.57	-4.17	-3.77
60 years: 1991-2050	13.10	13.70	-.60	-4.38	-3.85
61 years: 1991-2051	13.10	13.74	-.64	-4.66	-3.92
62 years: 1991-2052	13.10	13.77	-.67	-4.87	-4.00
63 years: 1991-2053	13.10	13.81	-.70	-5.07	-4.08
64 years: 1991-2054	13.10	13.84	-.74	-5.35	-4.15
65 years: 1991-2055	13.10	13.87	-.77	-5.55	-4.23
66 years: 1991-2056	13.10	13.91	-.80	-5.75	-4.31
67 years: 1991-2057	13.10	13.94	-.84	-6.03	-4.38
68 years: 1991-2058	13.11	13.97	-.87	-6.23	-4.46
69 years: 1991-2059	13.11	14.01	-.90	-6.42	-4.54
70 years: 1991-2060	13.11	14.04	-.93	-6.62	-4.62
71 years: 1991-2061	13.11	14.07	-.96	-6.82	-4.69
72 years: 1991-2062	13.11	14.10	-.99	-7.02	-4.77
73 years: 1991-2063	13.11	14.13	-1.02	-7.22	-4.85
74 years: 1991-2064	13.11	14.16	-1.05	-7.42	-4.92
75 years: 1991-2065	13.11	14.19	-1.08	-7.61	-5.00

FIGURE 4.—COMPARISON OF ESTIMATED LONG-RANGE ACTUARIAL BALANCES WITH THE MINIMUM ALLOWABLE FOR CLOSE ACTUARIAL BALANCE, ALTERNATIVE II BY TRUST FUND



Annual income rates and their components are shown in table 29, for each alternative set of assumptions. The annual income rates reflect the scheduled payroll tax rates and the projected rate of income from the taxation of benefits, which reflect changes in the cost rates and the fact that benefit-taxation threshold amounts are not indexed.

Summarized values for the annual income and cost rates, along with their components, are presented in table 30 for 25-year, 50-year, and 75-year valuation periods. Summarized income rates include the starting trust fund balance in addition to the components included in the annual income rates. The summarized cost rates include the cost of reaching and maintaining an ending trust fund target of 100 percent of annual expenditures by the end of the period in addition to the disbursements included in the annual cost rates. Thus, the total summarized rates shown in table 30 are the same as the summarized income and cost rates shown in table 27 for the 25-year, 50-year, and 75-year valuation periods.

TABLE 29.—COMPONENTS OF ANNUAL INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1991-2065
[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total
Alternative I:									
1991	11.20	0.20	11.40	1.20	0.01	1.21	12.40	0.21	12.61
1992	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1993	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1994	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1995	11.20	.17	11.37	1.20	.01	1.21	12.40	.17	12.57
1996	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1997	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1998	11.20	.22	11.42	1.20	.01	1.21	12.40	.23	12.63
1999	11.20	.22	11.42	1.20	.01	1.21	12.40	.23	12.63
2000	10.98	.23	11.21	1.42	.01	1.43	12.40	.24	12.64
2005	10.98	.28	11.26	1.42	.01	1.43	12.40	.30	12.70
2010	10.98	.34	11.32	1.42	.02	1.44	12.40	.36	12.76
2015	10.98	.39	11.37	1.42	.03	1.45	12.40	.42	12.82
2020	10.98	.46	11.44	1.42	.03	1.45	12.40	.49	12.89
2025	10.98	.51	11.49	1.42	.03	1.45	12.40	.54	12.94
2030	10.98	.55	11.53	1.42	.03	1.45	12.40	.58	12.98
2035	10.98	.55	11.53	1.42	.03	1.45	12.40	.58	12.98
2040	10.98	.54	11.52	1.42	.03	1.45	12.40	.57	12.97
2045	10.98	.53	11.51	1.42	.03	1.45	12.40	.56	12.96
2050	10.98	.52	11.50	1.42	.03	1.45	12.40	.56	12.96
2055	10.98	.53	11.51	1.42	.03	1.45	12.40	.56	12.96
2060	10.98	.53	11.51	1.42	.03	1.45	12.40	.56	12.96
2065	10.98	.53	11.51	1.42	.03	1.45	12.40	.56	12.96
Alternative II:									
1991	11.20	.21	11.41	1.20	.01	1.21	12.40	.21	12.61
1992	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1993	11.20	.22	11.42	1.20	.01	1.21	12.40	.23	12.63
1994	11.20	.22	11.42	1.20	.01	1.21	12.40	.23	12.63
1995	11.20	.22	11.42	1.20	.01	1.21	12.40	.23	12.63
1996	11.20	.23	11.43	1.20	.01	1.21	12.40	.24	12.64
1997	11.20	.23	11.43	1.20	.01	1.21	12.40	.24	12.64
1998	11.20	.24	11.44	1.20	.01	1.21	12.40	.25	12.65
1999	11.20	.25	11.45	1.20	.01	1.21	12.40	.26	12.66
2000	10.98	.25	11.23	1.42	.01	1.43	12.40	.26	12.66
2005	10.98	.32	11.30	1.42	.02	1.44	12.40	.34	12.74
2010	10.98	.40	11.38	1.42	.03	1.45	12.40	.42	12.82
2015	10.98	.46	11.44	1.42	.03	1.45	12.40	.49	12.89
2020	10.98	.54	11.52	1.42	.04	1.46	12.40	.58	12.98
2025	10.98	.62	11.60	1.42	.04	1.46	12.40	.66	13.06
2030	10.98	.67	11.65	1.42	.04	1.46	12.40	.71	13.11
2035	10.98	.70	11.68	1.42	.04	1.46	12.40	.74	13.14
2040	10.98	.70	11.68	1.42	.04	1.46	12.40	.75	13.15
2045	10.98	.70	11.68	1.42	.04	1.46	12.40	.75	13.15
2050	10.98	.71	11.69	1.42	.05	1.47	12.40	.76	13.16
2055	10.98	.73	11.71	1.42	.05	1.47	12.40	.78	13.18
2060	10.98	.76	11.74	1.42	.05	1.47	12.40	.80	13.20
2065	10.98	.77	11.75	1.42	.05	1.47	12.40	.82	13.22
Alternative III:									
1991	11.20	.21	11.41	1.20	.01	1.21	12.40	.22	12.62
1992	11.20	.22	11.42	1.20	.01	1.21	12.40	.23	12.63
1993	11.20	.23	11.43	1.20	.01	1.21	12.40	.24	12.64
1994	11.20	.24	11.44	1.20	.01	1.21	12.40	.25	12.65
1995	11.20	.25	11.45	1.20	.01	1.21	12.40	.26	12.66
1996	11.20	.25	11.45	1.20	.01	1.21	12.40	.26	12.66
1997	11.20	.25	11.45	1.20	.01	1.21	12.40	.27	12.67
1998	11.20	.26	11.46	1.20	.01	1.21	12.40	.27	12.67
1999	11.20	.27	11.47	1.20	.01	1.21	12.40	.29	12.69
2000	10.98	.28	11.26	1.42	.01	1.43	12.40	.30	12.70

TABLE 29.—COMPONENTS OF ANNUAL INCOME RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1991-2065 (Cont.)
[As a percentage of taxable payroll]

Calendar year	OASI			DI			Total		
	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total	Payroll tax	Taxation of benefits	Total
Alternative III: (Cont.)									
2005	10.98	0.37	11.35	1.42	0.02	1.44	12.40	0.40	12.80
2010	10.98	.46	11.44	1.42	.04	1.46	12.40	.49	12.89
2015	10.98	.53	11.51	1.42	.04	1.46	12.40	.57	12.97
2020	10.98	.62	11.60	1.42	.05	1.47	12.40	.67	13.07
2025	10.98	.72	11.70	1.42	.05	1.47	12.40	.77	13.17
2030	10.98	.80	11.78	1.42	.05	1.47	12.40	.86	13.26
2035	10.98	.86	11.84	1.42	.06	1.48	12.40	.92	13.32
2040	10.98	.89	11.87	1.42	.06	1.48	12.40	.95	13.35
2045	10.98	.92	11.90	1.42	.06	1.48	12.40	.99	13.39
2050	10.98	.97	11.95	1.42	.06	1.48	12.40	1.03	13.43
2055	10.98	1.03	12.01	1.42	.07	1.49	12.40	1.09	13.49
2060	10.98	1.09	12.07	1.42	.07	1.49	12.40	1.16	13.56
2065	10.98	1.14	12.12	1.42	.07	1.49	12.40	1.20	13.60

Note: Totals do not necessarily equal the sums of rounded components.

TABLE 30.—COMPONENTS OF SUMMARIZED INCOME RATES AND COST RATES BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1991-2065
[As a percentage of taxable payroll]

Calendar year	Income rate				Cost rate		
	Payroll tax	Taxation of benefits	Beginning fund balance	Total	Disbursements	Ending fund target	Total
OASI:							
Alternative I:							
25 years: 1991-2015	11.05	0.27	0.41	11.72	8.92	0.35	9.27
50 years: 1991-2040	11.01	.38	.23	11.61	9.95	.19	10.14
75 years: 1991-2065	11.00	.42	.16	11.58	10.23	.11	10.34
Alternative II:							
25 years: 1991-2015	11.04	.30	.42	11.77	9.83	.40	10.23
50 years: 1991-2040	11.01	.44	.24	11.69	11.47	.23	11.70
75 years: 1991-2065	11.00	.51	.18	11.69	12.37	.14	12.51
Alternative III:							
25 years: 1991-2015	11.04	.34	.44	11.83	10.89	.46	11.35
50 years: 1991-2040	11.01	.52	.25	11.77	13.16	.29	13.45
75 years: 1991-2065	11.00	.64	.19	11.82	15.00	.20	15.19
DI:							
Alternative I:							
25 years: 1991-2015	1.33	.01	.02	1.37	1.14	.05	1.19
50 years: 1991-2040	1.37	.02	.01	1.40	1.26	.02	1.28
75 years: 1991-2065	1.38	.02	.01	1.41	1.30	.01	1.31
Alternative II:							
25 years: 1991-2015	1.33	.02	.02	1.37	1.37	.06	1.43
50 years: 1991-2040	1.37	.03	.01	1.41	1.57	.03	1.60
75 years: 1991-2065	1.38	.03	.01	1.42	1.67	.02	1.69
Alternative III:							
25 years: 1991-2015	1.33	.02	.02	1.37	1.66	.08	1.74
50 years: 1991-2040	1.36	.04	.01	1.41	1.97	.04	2.01
75 years: 1991-2065	1.38	.04	.01	1.43	2.15	.02	2.18
OASDI:							
Alternative I:							
25 years: 1991-2015	12.38	.28	.43	13.09	10.06	.40	10.46
50 years: 1991-2040	12.38	.40	.24	13.01	11.21	.21	11.42
75 years: 1991-2065	12.38	.44	.17	13.00	11.53	.12	11.65
Alternative II:							
25 years: 1991-2015	12.37	.32	.45	13.14	11.20	.47	11.67
50 years: 1991-2040	12.38	.47	.25	13.10	13.05	.26	13.30
75 years: 1991-2065	12.38	.55	.19	13.11	14.04	.16	14.19
Alternative III:							
25 years: 1991-2015	12.37	.36	.47	13.20	12.55	.54	13.09
50 years: 1991-2040	12.37	.55	.26	13.19	15.13	.33	15.46
75 years: 1991-2065	12.37	.68	.20	13.25	17.15	.22	17.37

Note: Totals do not necessarily equal the sums of rounded components.

The primary reason that the estimated OASDI cost rate increases rapidly after 2005 is that the number of beneficiaries is projected to increase more rapidly than the number of covered workers. This occurs because the relatively large number of persons born during the period of high fertility rates from the end of World War II through the mid-1960s will reach retirement age, and begin to receive benefits, while the relatively small number of persons born during the subsequent period of low fertility rates will comprise the labor force. A comparison of the numbers of covered workers and beneficiaries is shown in table 31.

TABLE 31.—COMPARISON OF OASDI COVERED WORKERS AND BENEFICIARIES BY ALTERNATIVE, CALENDAR YEARS 1945-2065

Calendar year	Covered workers[1] (in thousands)	Beneficiaries[2] (in thousands)			Covered workers per OASDI beneficiary	Beneficiaries per 100 covered workers
		OASI	DI	Total		
Past experience:						
1945	46,390	1,106	—	1,106	41.9	2
1950	48,280	2,930	—	2,930	16.5	6
1955	65,200	7,563	—	7,563	8.6	12
1960	72,530	13,740	522	14,262	5.1	20
1965	80,680	18,509	1,648	20,157	4.0	25
1970	93,090	22,618	2,568	25,186	3.7	27
1975	100,200	26,998	4,125	31,123	3.2	31
1980	112,212	30,385	4,734	35,119	3.2	31
1985	120,098	32,776	3,874	36,650	3.3	31
1986	122,960	33,349	3,972	37,321	3.3	30
1987	125,548	33,917	4,034	37,952	3.3	30
1988	[3]129,565	34,343	4,077	38,421	3.4	30
1989	[3]132,995	34,754	4,105	38,859	3.4	29
1990	[3]133,530	35,266	4,204	39,470	3.4	30
Alternative I:						
1991	133,948	35,766	4,328	40,094	3.3	30
1995	141,490	37,321	4,447	41,768	3.4	30
2000	149,240	38,613	4,782	43,396	3.4	29
2005	133,948	40,076	5,374	45,450	3.4	29
2010	135,521	43,130	6,166	49,296	3.3	31
2015	137,662	48,657	6,648	55,305	3.0	34
2020	139,690	55,622	6,925	62,547	2.7	37
2025	141,490	62,214	7,273	69,486	2.4	41
2030	143,203	67,066	7,390	74,456	2.3	43
2035	144,796	69,708	7,421	77,129	2.3	43
2040	146,381	70,204	7,583	77,787	2.4	42
2045	147,834	70,493	7,981	78,474	2.4	41
2050	149,240	71,493	8,301	79,794	2.4	41
2055	150,425	73,506	8,591	82,097	2.4	41
2060	151,720	75,862	8,779	84,640	2.4	41
2065	152,976	78,025	9,019	87,044	2.4	41
Alternative II:						
1991	133,661	35,765	4,350	40,115	3.3	30
1995	139,177	37,480	4,750	42,230	3.3	30
2000	145,227	39,120	5,468	44,588	3.3	31
2005	133,661	40,938	6,112	47,050	3.2	31
2010	134,774	44,265	7,097	51,362	3.0	33
2015	136,496	50,067	7,683	57,750	2.7	37
2020	137,936	57,352	7,978	65,330	2.4	41
2025	139,177	64,292	8,324	72,616	2.2	46
2030	140,399	69,576	8,385	77,961	2.0	49
2035	141,574	72,671	8,351	81,022	2.0	51
2040	142,800	73,562	8,462	82,024	2.0	51
2045	144,001	74,103	8,828	82,931	2.0	51
2050	145,227	75,232	9,061	84,293	1.9	52
2055	145,969	77,239	9,205	86,444	1.9	53
2060	146,889	79,326	9,159	88,485	1.8	54
2065	147,776	80,885	9,163	90,048	1.8	55
Alternative III:						
1991	133,299	35,775	4,370	40,145	3.3	30
1995	134,643	37,628	5,047	42,675	3.2	32
2000	141,625	39,622	6,328	45,950	3.1	32
2005	133,299	41,853	6,999	48,852	3.0	34
2010	132,238	45,473	8,223	53,696	2.8	36
2015	133,731	51,546	8,946	60,492	2.5	40
2020	134,958	59,187	9,290	68,477	2.2	46
2025	134,643	66,592	9,661	76,254	1.9	52
2030	135,776	72,551	9,686	82,238	1.8	56
2035	137,864	76,482	9,614	86,096	1.7	60
2040	139,404	78,287	9,701	87,988	1.6	62
2045	140,547	79,681	10,054	89,735	1.6	64

TABLE 31.—COMPARISON OF OASDI COVERED WORKERS AND BENEFICIARIES BY ALTERNATIVE, CALENDAR YEARS 1945-2065 (Cont.)

Calendar year	Covered workers[1] (in thousands)	Beneficiaries[2] (in thousands)			Covered workers per OASDI beneficiary	Beneficiaries per 100 covered workers
		OASI	DI	Total		
Alternative III: (Cont.)						
2050	141,625	81,566	10,187	91,753	1.5	67
2055	142,180	84,148	10,147	94,295	1.4	71
2060	142,790	86,469	9,801	96,270	1.3	74
2065	143,377	87,823	9,514	97,337	1.3	77

[1]Workers who pay OASDI taxes at some time during the year.

[2]Beneficiaries with monthly benefits in current-payment status as of June 30.

[3]Preliminary.

Note: The numbers of beneficiaries do not include certain uninsured persons, most of whom both attained age 72 before 1968 and have fewer than 3 quarters of coverage, in which cases the costs are reimbursed by the general fund of the Treasury. The number of such uninsured persons was 8,594 as of June 30, 1990, and is estimated to be fewer than 500 by the turn of the century. Totals do not necessarily equal the sums of rounded components.

Table 31 shows that the number of covered workers per beneficiary, which was about 3.4 in 1990, is estimated to decline in the future. Based on alternative I, for which high fertility rates and small reductions in death rates are assumed, the ratio declines to an ultimate level of 2.4 by 2040. Based on alternative III, for which low fertility rates and substantial reductions in death rates are assumed, the decline is much greater, reaching 1.3 workers per beneficiary by 2065. Based on alternative II, the ratio declines to 1.8 workers per beneficiary.

The impact of the demographic shifts under the three alternatives on the OASDI cost rates is better understood by considering the projected number of beneficiaries per 100 workers. As compared to the current level of 30 beneficiaries per 100 covered workers, this ratio is estimated to rise by the year 2065 to significantly higher levels, which are 41 under alternative I, 55 under alternative II, and 77 under alternative III. The significance of these numbers can be seen by comparing figure 3 to figure 5. For each alternative, the shape of the curve in figure 5, which shows beneficiaries per 100 covered workers, is strikingly similar to that of the corresponding cost-rate curve in figure 3, thereby emphasizing the extent to which the cost of the OASDI program is determined by the age patterns of the population. Because the cost rate is basically the product of the number of beneficiaries and their average benefit, divided by the product of the number of covered workers and their average taxable earnings (and because average benefits rise at about the same rate as average earnings), it is reasonable that the pattern of the annual cost rates is similar to that of the annual ratios of beneficiaries to workers. A graphical presentation of covered workers per beneficiary is shown in the "Summary."

FIGURE 5.—RATIOS OF ESTIMATED OASDI BENEFICIARIES PER 100 COVERED WORKERS BY ALTERNATIVE, CALENDAR YEARS 1990-2065

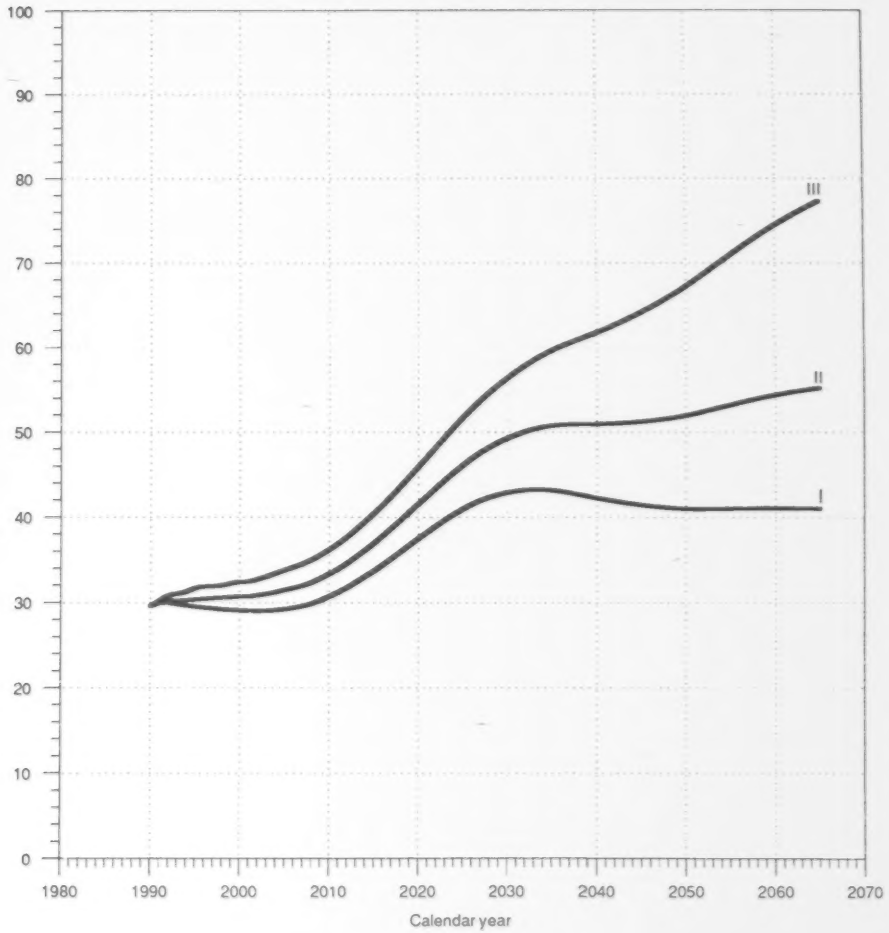


Table 32 shows, by alternative, the estimated contingency fund ratios for the separate and combined OASI and DI Trust Funds. The patterns of the combined fund ratios, over the 75-year period, are shown graphically in figure 6, for all three sets of assumptions.

Both the OASI and DI ratios, which are still fairly low, gradually increase based on alternative II. Such increases in the contingency fund ratios result from the fact that annual income rates (excluding interest) exceed annual outgo for several years (see table 26). The OASI ratio peaks about 2015, when it is 482 percent and the DI ratio peaks about 2005, when it is 94 percent. Thereafter, the OASI and DI ratios decline steadily. Under alternative II, the OASI and DI Trust Funds become exhausted in 2045 and 2015, respectively.

It should be noted that during the period in which the contingency fund ratio declines, the net amount of assets held by the trust funds declines. Initially, the dollar amount of the fund may continue to grow if interest on the fund is more than enough to cover the shortfall of noninterest income with respect to expenditures. However, when the difference between noninterest income and annual expenditures becomes larger than the interest on the fund, then the level of the trust fund in assets will also begin to decline. In either case, revenue from the general fund of the Treasury will be transferred to the trust funds as the special public debt obligations issued to the trust funds are redeemed in order to cover the shortfall. This will differ from the experience of recent years for which the trust funds have been net lenders to the general fund of the Treasury. The change in the cash flow between the trust funds and the general fund is expected to have important public policy and economic implications that go well beyond the operation of the OASDI program itself. Discussion of these issues is outside the scope of this report.

Based on alternative I, the contingency fund ratio increases virtually throughout the long-range projection period reaching extremely high levels by 2065, around 1,200 and 800 percent for the OASI and DI programs, respectively. In contrast, under alternative III, the OASI and DI Trust Funds are estimated to peak at about 220 percent around 2010, and at 41 percent in 1992, respectively, and to be exhausted within 35 years and 6 years, respectively. Thus, because of the high ultimate cost rates that are projected under all but the most optimistic assumptions, eventually income will need to be increased and/or program costs will need to be reduced in order to prevent the OASI and DI Trust Funds from becoming exhausted.

The OASI and DI funds combined are projected to rise for several years under each of the alternative sets of assumptions. Under alternative I the combined fund ratios are still rising at the end of the 75-year period. The combined fund ratios reach peaks in about 2015 under alternatives II and in about 2010 under alternative III, before turning down. The combined funds are projected to be exhausted in 2022 under the pessimistic assumptions in alternative III and in 2041 under the intermediate assumptions of alternative II (2 years earlier than for the intermediate alternative II-B assumptions in last year's report). This means that under even the most pessimistic assumptions the combined

OASDI funds and income would be able to cover expenditures for about 31 years into the future and that under the alternative II assumptions the OASDI funds and income would be able to cover expenditures for about 50 years into the future. The program would be able to cover expenditures for the indefinite future under the most optimistic assumptions in alternative I. In the 1990 report, the combined trust funds were projected to be exhausted in 2023 under alternative III, in 2043 under alternative II-B, and in 2056 under alternative II-A.

TABLE 32.—ESTIMATED CONTINGENCY FUND RATIOS BY TRUST FUND AND ALTERNATIVE, CALENDAR YEARS 1991-2065
[In percent]

Calendar year	Alternative I			Alternative II			Alternative III		
	OASI	DI	Total	OASI	DI	Total	OASI	DI	Total
1991	87	40	83	87	40	82	87	39	82
1992	104	48	98	102	45	96	99	41	93
1993	122	58	116	118	49	111	109	37	101
1994	143	72	136	135	54	126	118	33	109
1995	166	87	159	152	58	142	127	25	115
1996	192	104	183	171	61	159	134	14	120
1997	220	122	210	190	62	176	142	8	125
1998	251	140	240	210	62	194	150	[1]	130
1999	284	158	271	231	60	211	159	[1]	135
2000	318	174	303	252	57	229	167	[1]	139
2005	499	329	479	352	94	319	200	[1]	157
2010	676	401	641	444	75	392	224	[1]	160
2015	783	437	739	482	13	418	213	[1]	132
2020	810	468	769	455	[1]	387	150	[1]	60
2025	806	486	770	389	[1]	321	45	[1]	[1]
2030	803	511	772	303	[1]	235	[1]	[1]	[1]
2035	820	560	792	209	[1]	139	[1]	[1]	[1]
2040	872	610	844	114	[1]	40	[1]	[1]	[1]
2045	946	640	911	17	[1]	[1]	[1]	[1]	[1]
2050	1,022	669	981	[2]	[1]	[1]	[1]	[1]	[1]
2055	1,088	700	1,044	[2]	[1]	[1]	[1]	[1]	[1]
2060	1,151	744	1,105	[2]	[1]	[1]	[1]	[1]	[1]
2065	1,222	789	1,173	[2]	[1]	[1]	[1]	[1]	[1]
Trust fund is estimated to be exhausted in:	[2]	[2]	[2]	2045	2015	2041	2026	1997	2022

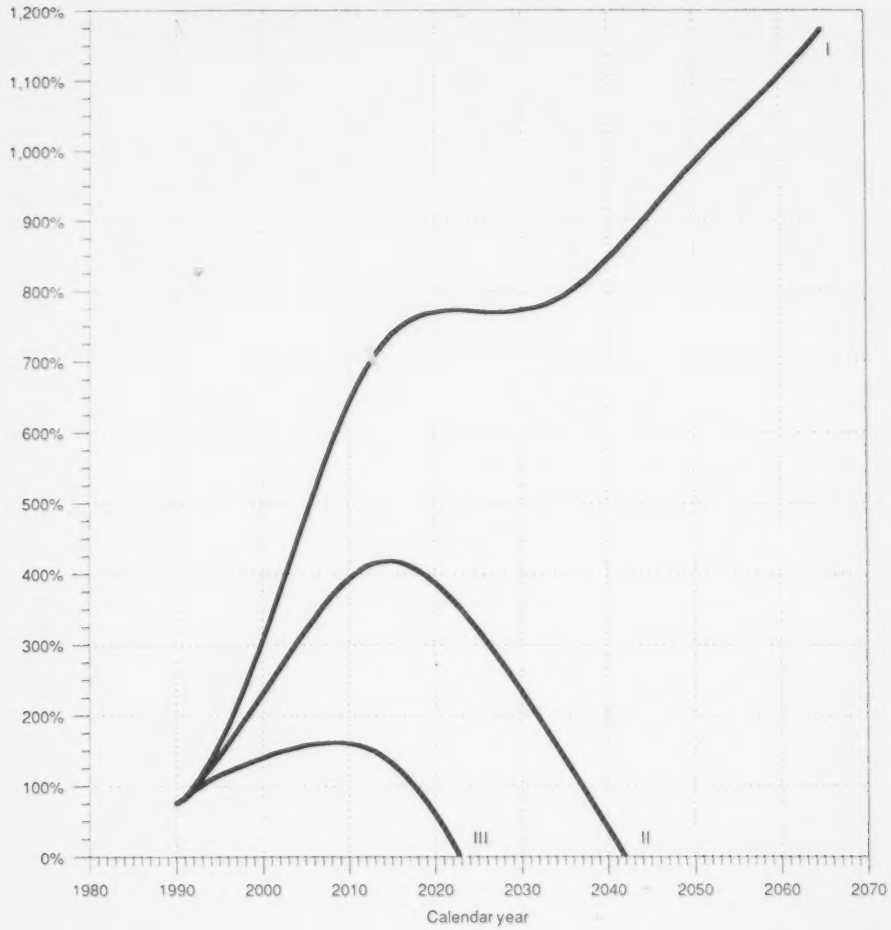
[1]The trust fund is estimated to have been exhausted by the beginning of this year. The last line of the table shows the specific year of trust fund exhaustion.

[2]The fund is not estimated to be exhausted within the projection period.

Note: See footnote 2 of table 13 for definition of contingency fund ratio. The OASDI ratios shown for years after a given fund is estimated to be exhausted are theoretical and are shown for informational purposes only.

A graphic illustration of the contingency fund ratios for the combined trust funds is shown in figure 6 for each of the alternative sets of assumptions.

FIGURE 6.—ESTIMATED CONTINGENCY FUND RATIOS, FOR OASI AND DI TRUST FUNDS COMBINED, CALENDAR YEARS 1990-2065



Reasons for changes from last year's report to this report in the long-range actuarial balance under the intermediate assumptions (alternative II-B last year and alternative II this year) are itemized in table 33. Also shown are the estimated effects associated with each reason for change.

TABLE 33.—CHANGE IN ACTUARIAL BALANCE ESTIMATED ON THE BASIS OF INTERMEDIATE, ALTERNATIVE II, ESTIMATES BY TRUST FUND AND REASON FOR CHANGE
[As a percentage of taxable payroll]

Item	OASI	DI	Total
Shown in last year's report:[1]			
Income rate	11.62	1.42	13.04
Cost rate	12.31	1.64	13.95
Actuarial balance	−.69	−.22	−.91
Changes in actuarial balance due to changes in:			
Legislation	+ .17	+ .00	+ .17
Valuation period	−.04	−.01	−.05
Demographic assumptions	+ .03	+ .01	+ .04
Economic assumptions	−.10	−.01	−.11
Disability assumptions	.00	−.01	−.01
Methods	−.06	−.00	−.06
Subtotal for above changes	+ .02	−.03	−.01
Cost of reaching ending trust fund target	−.14	−.02	−.16
Total change in actuarial balance	−.13	−.05	−.17
Shown in this report:[2]			
Actuarial balance	−.82	−.27	−1.08
Income rate	11.69	1.42	13.11
Cost rate	12.51	1.69	14.19

[1]Income rates, cost rates, and taxable payroll are calculated on the basis of alternative II-B assumptions, as described in the 1990 report. Several of those assumptions have been modified for alternative II of this year's report. A description of the modifications is presented in the text of this report. Includes the trust fund balances as of the start of the valuation period.

[2]Includes the trust fund balances as of the start of the valuation period and the cost of reaching the ending fund target of 100 percent of annual expenditures by the end of the period.

Note: Totals do not necessarily equal the sums of rounded components.

The Omnibus Budget Reconciliation Act of 1990 (Public Law 101-508, enacted on November 5, 1990) included several provisions which affect the long-range cost of the OASDI program. (See section II. of this report for a detailed description of these provisions.) The most significant effect results from the provision for OASDI coverage of State and local employee earnings that are not covered by any State or local pension plan. This change results in a significant improvement in the long-range actuarial balance. In addition, this act alters the definition of disability for disabled widow(er) benefits and the requirements for the disability pre-effectuation review, both of which slightly decrease the actuarial balance.

The Immigration Act of 1990 (Public Law 101-649, enacted on November 29, 1990), substantially increases quotas for legal immigration into the United States. As a result of this legislation, the Trustees have increased the immigration assumptions for this report. The additional immigration is estimated to improve the long-range actuarial balance significantly.

In changing from the valuation period of last year's report, which was 1990-2064, to the valuation period of this report, 1991-2065 the balance year of 2065 is included. This results in a decrease in the long-range actuarial balance. (Note that the positive balance for 1990 is, in effect, retained because the funds accumulated during the year are included in the income rate and the actuarial balance for this year's report.)

Several demographic assumptions were modified: (1) the starting population, used in the projection of the Social Security Area population, was updated; (2) the total fertility rate was increased slightly for the first 25 projection years reflecting recently observed birth rates that were higher than expected; and (3) mortality assumptions were revised to incorporate the latest data and analyses. The net effect of these modifications is an increase in the long-range actuarial balance. Immigration assumptions were modified as described above to reflect new legislation.

Two ultimate economic assumptions were altered significantly this year. The ultimate real-wage differential (the difference between the annual rate of growth in average wages in covered employment and the annual rate of growth in the Consumer Price Index for Urban Wage Earners and Clerical Workers) was reduced from the level of 1.3 percent used for alternative II-B in last year's report to 1.1 percent for alternative II in this report. This change significantly reduces the actuarial balance. The assumed ultimate real interest rate on special public-debt obligations issuable to the trust funds was increased from the level of 2.0 percent assumed for alternative II-B last year to 2.3 percent for alternative II in this report. This change significantly improves the actuarial balance.

Other economic assumptions and projected rates of employment were updated to incorporate the latest information and analyses. Price inflation was higher and wage growth was lower than was expected during 1990. Slightly lower labor force participation rates are projected based on recent data. Recent data indicate that the ratio of OASDI taxable earnings to earnings in covered employment has increased somewhat since 1988. This change alone improves the long-range actuarial balance by about 0.1 percent of taxable payroll, the result of offsetting roughly one half of the estimated reduction in this ratio for recent years, which was reflected in last year's report. These changes have the net effect of decreasing the long-range actuarial balance.

Projections of the number of disabled beneficiaries were increased somewhat reflecting recent increases in incidence rates and decreases in termination rates and, beginning about 2010, increases in the projections of the disability insured population. These modifications result in a small reduction in the long-range actuarial balance.

Several minor improvements were made in the methods used to estimate the long-range actuarial balance. These had a net effect that reduced the estimated balance.

Finally, the definition of actuarial balance has been altered this year by including in the summarized cost rate the cost of reaching and maintaining an ending trust fund target equal to 100 percent of annual expenditures by the end of the period. This change decreases the estimated actuarial balance by 0.16 percent of taxable payroll. Without this change, the 75-year OASDI actuarial balance would be nearly the same as was estimated for alternative II-B in last year's report.

The cost of the OASDI program has been discussed in this section in relation to taxable payroll, which is a program-related concept that is very useful in analyzing the financial status of the OASDI program. The

cost can also be discussed in relation to broader economic concepts, such as the gross national product (GNP). OASDI outlays generally rise from a little less than 5 percent of GNP currently to about 6.75 percent of GNP by the end of the 75-year projection period under alternative II. Discussion of both the cost and the taxable payroll of the OASDI program in relation to GNP is presented in Appendix G.

VII. CONCLUSION

The combined OASI and DI Trust Funds continue to grow, as shown by the estimates of financial operations presented in this report. The combined assets of the trust funds are expected to reach a level of at least 1 year's expenditures by the beginning of 1993, based on all three sets of economic and demographic assumptions for which estimates are shown in the report. The combined funds will continue to grow during the next 10 years, and for many years thereafter, under each of the three sets of assumptions.

In the short range, the combined funds meet the new 10-year test of financial adequacy, as described earlier in this report, because the funds' assets exceed 1 year's expenditures from 1993 through 2000, based on the intermediate assumptions. However, the DI Trust Fund, by itself, does not meet the new test in the short range, indicating a need to strengthen the financial position of the DI fund. Because the combined funds meet the 10-year test, a reallocation of contribution rates between the OASI and DI Trust Funds during the next 10 years could make the DI fund financially adequate in the short range without causing the OASI fund to fail the short-range test.

In the long range, the estimates indicate that the combined trust funds would be sufficient to enable the timely payment of benefits for the next 50 years, based on the intermediate assumptions. For the OASI fund and the DI fund, separately, sufficient funds would be available for the next 55 years and the next 25 years, respectively. On the basis of the more pessimistic assumptions in alternative III, the combined funds would be sufficient to enable timely payment of benefits for the next 30 years. However, the DI fund, by itself, would be exhausted in 1997, without corrective legislation. Based on the more optimistic assumptions of alternative I, both the OASI and DI Trust Funds would continue to grow throughout the next 75 years, and benefits could be paid during all of the long-range period.

The actuarial balance of the OASDI program as a whole over the next 75 years is a deficit of 1.08 percent of taxable payroll, based on the intermediate assumptions. As noted earlier in this report, the OASDI program does not meet the criteria in the new long-range test for close actuarial balance. Beginning with the 1991-2048 period, and for all successively longer periods through the 75-year period 1991-2065, the actuarial balance is lower than the minimum allowable level. Thus the program is not in long-range close actuarial balance.

For the first 25-year subperiod, the OASDI program has a positive balance of 1.49 percent of taxable payroll, on a present-value basis. However, the balances in the second and third 25-year subperiods are deficits of 2.37 percent and 3.88 percent, respectively. (These balances, which are based on the intermediate assumptions, do not include the funds on hand at the beginning of the subperiod, nor do they take account of the cost of an ending trust fund target of 100 percent of annual expenditures.)

The actuarial deficits in the later years of the 75-year projection period are caused primarily by the combination of (a) rising cost rates, due largely to demographic trends, and (b) nearly flat income rates,

which result from the flat contribution rate scheduled for 1992 and later and the relatively small income from the taxation of benefits. Because of this combination of rising cost rates and relatively flat income rates, the annual deficit in the OASDI program is estimated to be 4.52 percent of taxable payroll at the end of the 75-year projection period, based on intermediate assumptions.

The OASDI long-range estimates based on the intermediate assumptions show a pattern of annual balances that are positive throughout the first 26 years and negative thereafter. The inclusion of interest earnings in the annual income results in trust fund growth, in dollars, that continues for about another decade after the annual balances (which do not account for the effect of interest income) first become negative. However, because disbursements are estimated to increase at a faster rate than assets, OASDI assets decline, relative to annual disbursements, from about 4 times to about 3 times annual expenditures, during this same time period.

The OASI Trust Fund, by itself, is similarly out of close actuarial balance because it fails to meet the test for the period 1991-2055 and for all longer periods through the full 75-year period from 1991-2065. The DI Trust Fund does not meet the short-range test over the next 10 years, as noted above, and it fails the long-range test as well. In fact, the actuarial balances for the DI fund are below the minimum allowable level in all of the measuring periods from 1991-2001 through 1991-2065.

In view of the worsening condition of the DI Trust Fund since the 1990 report was released, and the failure of the fund to meet the new test for financial adequacy in both the short range and the long range, the Board strongly recommends taking action to strengthen the financial position of the DI Trust Fund. The combined OASI and DI Trust Funds are estimated to continue growing for many years. Thus, the financing of the DI Trust Fund could be strengthened for many years into the future by a reallocation of contribution rates without increasing the total contribution rates scheduled for OASDI under present law.

However, because the OASDI program is not in close actuarial balance in the long range, possible ways of addressing the deficits estimated for distant future years should continue to be the subject of extensive study. The current Advisory Council on Social Security is examining the financial status of the OASDI program, and the Board anticipates receiving its report, with recommendations, for consideration later this year.

APPENDIX A.—ASSUMPTIONS AND METHODS UNDERLYING THE ACTUARIAL ESTIMATES

This appendix describes the assumptions and methods which underlie the actuarial estimates in this report. Unless specifically stated otherwise, the assumptions and methods were used for each of the three alternatives and for both the short-range and long-range periods. Some of the economic and demographic assumptions which vary by alternative are summarized in the section entitled "Actuarial Estimates." Further details about the assumptions, methods, and actuarial estimates are contained in Actuarial Studies published by the Office of the Actuary, Social Security Administration, and are available upon request.

TOTAL POPULATION

Projections were made of the population in the Social Security coverage area by age, sex, and marital status as of January 1 of each year 1990 through 2080. The projections started with an estimate of the United States population, including armed forces overseas, as of January 1, 1989, based on data from the Bureau of the Census. This population estimate was adjusted for net census undercount and increased for other U.S. citizens living abroad and for populations in the geographic areas covered by the OASDI program but not included in the U.S. population. This population was then projected using assumed rates of birth, death, marriage, and divorce and assumed levels of net immigration.

Historically, fertility rates in the United States have fluctuated widely. The total fertility rate is defined to be the average number of children that would be born to a woman in her lifetime if she were to experience the birth rates by age observed in, or assumed for, the selected year, and if she were to survive the entire child-bearing period. The total fertility rate decreased from 3.3 children per woman after World War I to 2.1 during the Great Depression, rose to 3.7 in 1957, and then fell to 1.7 in 1976. Since then, it has risen to a level currently estimated at 2.0.

These variations in fertility rates have resulted from changes in many factors, including social attitudes, economic conditions, and the use of birth-control methods. Future fertility rates may be expected to remain close to recent levels. The recent historical and projected trends in certain population characteristics are consistent with a continued relatively low fertility rate. These trends include the rising percentages of women who have never married, of women who are divorced, and of young women who are in the labor force. Based on consideration of these factors, ultimate total fertility rates of 2.2, 1.9, and 1.6 children per woman were selected for alternatives I, II, and III, respectively. For each alternative, the total fertility rate is assumed to reach its ultimate level in 2015. These ultimate values can be compared to those used by the Bureau of the Census for its latest series of population projections. Those fertility rates range from 2.2 to 1.5, with an intermediate assumption of 1.8.[1] A rate of 2.1 would ultimately result in a nearly constant population if net immigration were zero and if death rates were constant.

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[1]U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 1018, "Projections of the Population of the United States By Age, Sex, and Race: 1988-2080," U.S. Government Printing Office, Washington, D.C., January 1989.

Historically, death rates in the United Sates have declined steadily. The age-sex-adjusted death rate—which is calculated here as the crude rate that would occur in the enumerated total population as of April 1, 1980, if that population were to experience the death rates by age and sex for the selected year—declined at an average rate of 1.2 percent per year between 1900 and 1988. These reductions in death rates have resulted from many factors, including increased medical knowledge and availability of health-care services and improvements in personal health-care practices such as diet and exercise. Based on consideration of the likelihood of continued progress in these and other areas, three alternative sets of ultimate annual percentage reductions in central death rates by age, sex, and cause of death were selected for 2015 and later. The intermediate set, which is used for alternative II, is considered to be the one closest to average expectations. The average annual percentage reductions used for alternative I are smaller than those for alternative II, while those used for alternative III are greater. Between 1990 and 2015, the reductions in central death rates for alternative II are assumed to change gradually from the average annual reductions by age, sex, and cause of death observed between 1968 and 1987, to the ultimate annual percentage reductions by age, sex, and cause of death assumed for 2015 and later. Alternative I reductions are assumed to change gradually from 50 percent of the average annual reductions observed between 1968 and 1987, while alternative III reductions are assumed to change gradually from 150 percent of the average annual reductions observed between 1968 and 1987. The age-sex-adjusted death rate (for all causes combined) declined at an average rate of 1.6 percent per year between 1968 and 1987.

After adjustment for changes in the age-sex distribution of the population, the resulting death rates were projected to decline at an average annual rate of about 0.3 percent, 0.6 percent, and 0.9 percent between 1990 and 2065 for alternatives I, II, and III, respectively.

For 1989, the net legal immigration is assumed to be 480,000 persons per year and, consistent with the estimates of other-than-legal immigration made by the Bureau of the Census since the 1980 Census, net other-than-legal immigration is assumed to be 200,000 persons per year. For calendar years 1990 and 1991, net immigration is assumed to be 800,000, 600,000, and 450,000 persons per year for alternatives I, II, and III, respectively. Of these net numbers of immigrants, 450,000, 400,000, and 350,000, respectively, are assumed to be legal, and the remainders are assumed to be other-than-legal. Because of legislative changes which increase the limits on the number of legal immigrants beginning in 1992, net immigration for the remainder of the projection period is assumed to be 1,000,000, 750,000, and 600,000 persons per year for alternatives I, II, and III, respectively. Of these net numbers of immigrants, 650,000, 550,000, and 500,000, respectively, are assumed to be legal, and the remainders are assumed to be other-than-legal.

Table A1 shows the projected population as of July 1 by broad age group, for the three alternatives. Also shown are tabulated aged dependency ratios (see table footnotes for definitions). Because eligibility for many types of OASDI benefits depends on marital status, the

population was projected by marital status, as well as by age and sex. Marriage and divorce rates were based on recent data from the National Center for Health Statistics.

TABLE A1.—SOCIAL SECURITY AREA POPULATION AS OF JULY 1 AND DEPENDENCY RATIOS, BY ALTERNATIVE AND BROAD AGE GROUP, CALENDAR YEARS 1950-2065

Calendar year	Population (in thousands)				Dependency ratio	
	Under 20	20-64	65 and over	Total	Aged[1]	Total[2]
Past experience:						
1950	53,895	92,739	12,752	159,386	0.138	0.719
1960	72,989	99,842	17,250	190,081	.173	.904
1970	80,885	113,073	20,892	214,850	.185	.900
1975	78,787	122,639	23,228	224,653	.189	.832
1980	74,929	134,199	26,125	235,252	.195	.753
1985	73,176	144,967	29,023	247,166	.200	.705
Alternative I:						
1990	74,891	152,791	31,991	259,672	.209	.700
1995	78,859	160,472	34,224	273,554	.213	.705
2000	82,172	169,272	35,122	286,566	.207	.693
2005	84,165	178,782	36,101	299,047	.202	.673
2010	85,984	187,058	38,727	311,769	.207	.667
2015	88,310	192,489	44,161	324,960	.229	.688
2020	91,853	195,223	50,967	338,042	.261	.732
2025	95,548	196,250	58,530	350,329	.298	.785
2030	98,707	198,592	64,308	361,606	.324	.821
2035	101,336	204,026	66,738	372,100	.327	.824
2040	104,057	211,111	67,059	382,227	.318	.811
2045	107,255	218,121	66,991	392,367	.307	.799
2050	110,733	224,110	67,979	402,823	.303	.797
2055	114,127	229,760	69,935	413,823	.304	.801
2060	117,308	235,663	72,529	425,501	.308	.806
2065	120,443	242,691	74,650	437,784	.308	.804
Alternative II:						
1990	74,854	152,723	31,995	259,573	.209	.700
1995	78,113	159,460	34,402	271,975	.216	.706
2000	80,083	167,123	35,682	282,889	.214	.693
2005	80,137	175,523	37,133	292,793	.212	.668
2010	79,365	182,757	40,219	302,341	.220	.654
2015	78,606	186,827	46,100	311,533	.247	.667
2020	79,033	187,576	53,377	319,985	.285	.706
2025	79,754	186,039	61,480	327,273	.330	.759
2030	80,022	185,237	67,841	333,099	.366	.798
2035	79,865	186,878	70,791	337,533	.379	.806
2040	79,691	189,612	71,546	340,849	.377	.798
2045	79,742	191,836	71,809	343,387	.374	.790
2050	80,011	192,478	73,007	345,495	.379	.795
2055	80,263	192,129	75,092	347,484	.391	.809
2060	80,363	191,611	77,590	349,563	.405	.824
2065	80,373	192,136	79,235	351,744	.412	.831
Alternative III:						
1990	74,828	152,677	32,000	259,505	.210	.700
1995	77,502	158,876	34,589	270,967	.218	.706
2000	78,263	165,747	36,240	280,250	.219	.691
2005	76,528	173,068	38,136	287,732	.220	.663
2010	73,368	179,518	41,692	294,579	.232	.641
2015	69,853	182,753	48,081	300,687	.263	.645
2020	67,637	182,156	55,933	305,726	.307	.678
2025	65,981	178,735	64,736	309,452	.362	.731
2030	64,098	175,479	71,929	311,506	.410	.775
2035	62,037	174,013	75,797	311,846	.436	.792
2040	59,999	173,101	77,538	310,638	.448	.795
2045	58,083	171,308	78,775	308,166	.460	.799
2050	56,434	167,521	80,840	304,795	.483	.819
2055	54,926	162,311	83,655	300,892	.515	.854
2060	53,425	156,798	86,533	296,756	.552	.893
2065	51,917	152,551	88,046	292,514	.577	.917

[1]Population aged 65 and over, divided by population aged 20-64.

[2]Sum of population aged 65 and over, and population under age 20, divided by population aged 20-64.

Note: Totals do not necessarily equal the sums of rounded components.

COVERED POPULATION

The number of covered workers in a year is defined as the number of persons who, at any time during the year, have OASDI taxable earnings Projections of the numbers of covered workers were made by applying projected coverage rates to the projected Social Security area population. The coverage rates—i.e., the number of covered workers in the year, as a percentage of the population as of July 1—were determined by age and sex using projected labor force participation rates and unemployment rates, and their historical relationships to coverage rates. In addition, the coverage rates were adjusted to reflect the increase in coverage of (1) State and local government employment that will result from the enactment of the Omnibus Budget Reconciliation Act of 1990 and (2) Federal civilian employment that will result from the 1983 Social Security Amendments.

Labor force participation rates were projected by age and sex, taking into account projections of the percentage of the population that is married, the percentage of the population that is disabled, the number of children in the population, the level of retirement benefits, and the state of the economy. All of these factors vary by alternative. For men, the projected age-adjusted labor force participation rates for the year 2065 for alternatives I, II, and III are 1.8, 2.3, and 2.7 percentage points lower, respectively, than the 1990 level of 76.6 percent. For women, the projected age-adjusted labor force participation rates increase for alternatives I and II and decrease for alternative III. The projected rates for 2065 are 2.6, 1.0, and -0.6 percentage points, respectively, different from the 1990 level of 57.6 percent.

The total age-sex-adjusted unemployment rate averaged 5.9 percent for the last 30 years 1961-90 and 7.0 percent for the last 10 years 1981-90. The ultimate total age-sex-adjusted unemployment rate is assumed to be 5.0, 6.0, and 7.0 percent for alternatives I, II, and III, respectively. Because the unemployment rate depends on the state of the economy, cyclical trends are reflected in the short-range period. Unemployment levels off to the assumed ultimate rate by the year 2000, for each of the three alternatives.

The projected age-adjusted coverage rate for men decreases from its 1990 level of 75.2 percent to 73.7, 72.9, and 72.2 percent in 2065 on the basis of alternatives I, II, and III, respectively. For women, it changes from its 1990 level of 59.3 percent to 61.8, 60.0, and 58.3 percent for alternatives I, II, and III, respectively.

AVERAGE EARNINGS AND INFLATION

Future increases in average earnings and in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W, hereinafter denoted as "CPI") will directly affect the OASDI program. Increases in the CPI directly affect the automatic cost-of-living benefit increases, while inflation in general affects the nominal levels of average earnings, GNP, and taxable payroll. Average earnings in covered employment for each year have a direct effect on the size of the taxable payroll and on the future level of average benefits. In addition, increases in average wages in the U.S. economy directly affect the indexation, under the

automatic-adjustment provisions in the law, of the benefit formulas, the contribution and benefit base, the exempt amounts under the retirement earnings test, the amount of earnings required for a quarter of coverage, and under certain circumstances, the automatic cost-of-living benefit increases.

Increases in average earnings were projected in two components—average earnings of wage-and-salary workers, usually referred to as average wages (and shown in table 10 of this report), and average net earnings of self-employed persons. Each of these was subdivided into increases in real average earnings and increases in the CPI. For simplicity, real-earnings increases are expressed in the form of real-earnings differentials—i.e., the percentage increase in average nominal earnings, minus the percentage increase in the CPI.

The assumed ultimate increases in average real earnings are based on analysis of trends in productivity gains and the factors linking productivity gains with increases in average real earnings. For the 30 years 1960-89, annual increases in productivity for the total U.S. economy averaged 1.6 percent, the result of average annual increases of 2.4, 1.5, and 0.9 percent for the 10-year periods 1960-69, 1970-79 and 1980-89, respectively. Meanwhile, the average annual rate of change in average real earnings was an increase of 0.8 percent for the 30 years 1960-89, the result of average annual increases of 2.3, -0.2, and 0.2 percent, respectively, for the aforementioned 10-year periods. The change in the linkage between annual increases in productivity and real earnings averaged 0.8 percent for the 30 years 1960-89, and 0.1, 1.7, and 0.7 percent, respectively, for the aforementioned 10-year periods. The change in the linkage reflects changes in such factors as the average number of hours worked per year, the extent to which workers share in the value of production, the proportion of employee compensation paid as wages, and price adjustment due to the ratio of the GNP price deflator index to the CPI.

The ultimate annual increases in productivity for all sectors—wage-and-salary workers, self-employed persons, and the total economy—are assumed to be 1.9, 1.5, and 1.2 percent for alternatives I, II, and III, respectively. The corresponding ultimate annual rates of change in the linkage for wage-and-salary workers are assumed to be declines of 0.2, 0.4, and 0.6 percent for alternatives I, II, and III, respectively. This linkage is made up of assumed annual decreases of 0.1, 0.2, and 0.3 percent in average hours worked per year, and 0.1, 0.2, and 0.3 percent annual declines in wages as a share of compensation, for alternatives I, II, and III, respectively. No ultimate change is assumed for the historically relatively stable ratio of employee compensation to GNP. The resulting ultimate real-wage differentials are 1.7, 1.1, and 0.6 percent. Ultimate annual declines in the linkage for self-employed persons are smaller because the proportion of reported compensation that is considered earnings remains constant. As a result, ultimate real-earnings differentials for the self-employed are assumed to be higher than for wage-and-salary workers. The corresponding ultimate real-earnings differentials for wage-and-salary workers and self-employed persons, combined, are slightly higher than those assumed for wage-and-salary workers only.

Historically, the CPI has increased, on average, by 4.2 percent for the last 39 years from 1951 to 1990, 5.0 percent for the last 30 years from 1960 to 1990, 6.2 percent for the last 20 years from 1970 to 1990, and 4.5 percent for the last 10 years from 1980 to 1990. The 6.2 percent increase from 1970 to 1990 reflects sharp increases in oil prices and their subsequent effect on the overall economy. The ultimate average annual CPI increases of 3.0, 4.0, and 5.0 percent for alternatives I, II, III, respectively, were chosen to include a reasonable range of possible future experiences. Ultimate annual increases in the GNP price deflator are assumed to be the same, for each alternative, as for the CPI.

The ultimate increases in average annual wages in covered employment are assumed to be 4.7, 5.1, and 5.6 percent, for alternatives I, II, and III, respectively. These were obtained, for each alternative, by adding the assumed annual percentage increase in the CPI to the assumed real-wage differential. Ultimate increases in average wages and earnings for the U.S. economy are very similar to those assumed for average wages in covered employment.

TAXABLE PAYROLL AND TAXES

The taxable payroll for any period is that amount which, when multiplied by the combined employee-employer tax rate, yields the total amount of taxes paid by employees, employers, and the self-employed for work during the period. The taxable payroll is important not just in estimating OASDI income, but also in determining income and cost rates, and actuarial balances. These terms are defined in the introduction to the section entitled "Actuarial Estimates."

In practice, the taxable payroll is calculated as a weighted average of the earnings on which employees, employers, and self-employed persons make contributions to the OASDI program. The weighting takes into account the lower tax rates, as compared to the combined employee-employer rate, which apply to multiple-employer "excess wages," and which did apply, before 1984, to net earnings from self-employment and, before 1988, to tips. For 1983 and later, taxable payroll also includes deemed wage credits for military service. Estimates of taxable earnings for employees, employers, and the self-employed were developed from corresponding estimates of earnings in the U.S. economy, by means of factors which adjust for various differences in these measures. The factors adjust total U.S. earnings by removing earnings from noncovered employment, adding earnings from various outlying areas which are covered by Social Security but are not included in published "U.S." data, and removing earnings above the taxable earnings base.

For the 1991 report, an increase in the ratio of taxable earnings to earnings in OASDI covered employment for 1989, along with the assumption that this ratio will decline slightly over the next decade, result in an increase in the projected level of taxable payroll.

Estimates of taxes collected were developed from the corresponding estimates of taxable earnings by applying the employee, employer, or self-employed tax rate, and by taking into account the lag time from the incurrence of tax liability to the collection of taxes.

INSURED POPULATION

There are three basic types of insured status under the OASDI program: fully insured, currently insured, and disability insured. Fully insured status is required of an aged worker for eligibility to a primary retirement benefit and for the eligibility of that worker's spouse and children to auxiliary benefits. Fully insured status is also required of a deceased worker for the eligibility of the worker's survivors to benefits (with the exception of child survivors and parents of eligible child survivors, in which cases the deceased worker is required to have had either currently insured status or fully insured status). Disability insured status, which is more restrictive than fully insured status, is required of a disabled worker for eligibility to a primary disability benefit and for the eligibility of the worker's spouse and children to auxiliary benefits.

Projections of the percentage of the population that is fully insured were made by age and sex, from estimated distributions of workers by accumulated quarters of coverage based on past and projected coverage rates and amounts of earnings required for quarters of coverage. Currently insured status was disregarded for purposes of these estimates, because the number of cases in which eligibility for benefits is based solely on currently insured status is relatively small. Projections of the percentage of fully insured persons who are also disability insured were made by age and sex based on past and projected coverage rates, the requirement for disability insured status, and their historical relationships. Finally, the fully insured and disability insured populations were developed from the projected total population by applying the appropriate percentages.

Under this procedure, the percentage of the Social Security area population aged 62 and over that is fully insured is projected to increase from 75.8 on January 1, 1990, to 90.8, 90.7, and 90.4 on January 1, 2066, based on alternatives I, II, and III, respectively. The increase for females is projected to be much greater than the increase for males. Based on alternative II, for example, the percentage for males is projected to increase only slightly during this period from 92.0 to 92.6, while that for females is projected to increase more substantially from 64.2 to 89.2.

The fully insured population by age and sex was further subdivided by marital status, by using the variation in labor force participation rates by marital status to estimate the variation in coverage rates by marital status. These coverage rates were then used to estimate the variation in the fully insured rates by marital status.

OLD-AGE AND SURVIVORS INSURANCE BENEFICIARIES

The numbers of OASI beneficiaries were projected for each type of benefit separately, by the sex of the worker on whose earnings the benefits are based, and by the age of the beneficiary. For selected types of benefits, the numbers of beneficiaries were also projected by marital status.

In the short-range period, the numbers of retired-worker beneficiaries were developed by applying award rates to the numbers of persons who are insured but not yet retired, and by applying termination rates to the numbers of persons already receiving retired-worker benefits. In the long

range, the numbers of retired-worker beneficiaries who are not converted from disabled-worker beneficiaries were projected as a percentage of the aged fully insured population less those persons entitled to disability or widow(er)'s benefits (i.e., the exposed population). The percentages for ages 70 and over were assumed to be 100, because the retirement earnings test and delayed retirement credit do not apply after age 70. The percentages for ages 62 through 69 were adjusted in accordance with observed short-range trends and, for each year of attainment of age 62, as a function of the ratio of the monthly benefit amount payable at each age of entitlement to the amount payable at age-70 entitlement. This resulted in a gradual downward adjustment as the increases in the delayed retirement credit become effective and, beginning in 2000, during the years in which the normal retirement age is scheduled to increase. The net effect of these adjustments is to decrease the percentages to ultimate values, which are reached in 2030. The numbers of retired-worker beneficiaries who are converted from disabled-worker beneficiaries were calculated separately in a manner consistent with the calculation of disabled-worker beneficiaries.

The numbers of aged-spouse beneficiaries were estimated from the population projected by age and sex. The benefits of aged-spouse beneficiaries are based on the earnings records of their husbands or wives, who are referred to as "wage earners." In the short-range period, a regression equation was used to project the number of aged-spouse beneficiaries, as a proportion of the aged female or male population not receiving retired-worker or aged-widow(er) benefits. In the long-range period, aged-spouse beneficiaries were estimated from the population projected by age, sex, and marital status. To the numbers of spouses aged 62 and over in the population, a series of factors were applied, representing the probabilities that the spouse and the wage earner meet all of the conditions of eligibility—i.e., the probabilities that (1) the wage earner is 62 or over, (2) the wage earner is insured, (3) the wage earner is receiving benefits, (4) the spouse is not receiving a benefit for the care of an entitled child, (5) the spouse is not insured, (6) the spouse is not eligible to receive a significant government pension based on earnings in noncovered employment, and (7) a residual factor.

In addition, the same factors were applied to the numbers of divorced persons aged 62 and over in the population, with three differences. First, an additional factor is required to reflect the probability that the person's former wage-earner spouse is still alive (otherwise, the person may be entitled to a divorced widow(er)'s benefit). Second, a factor is required to reflect the probability that the marriage to the wage-earner spouse was at least 10 years in duration. Third, factor (3) was not applied because, effective for January 1985, a divorced person generally need not wait to receive benefits until the former wage-earner spouse is receiving benefits.

The projected numbers of children under age 18, and students aged 18, who are eligible for benefits as children of retired-worker beneficiaries, were based on the projected numbers of children in the population. In the short-range period, a factor was applied, representing the probability that both parents are alive. A regression equation was then

used to project the number of children of retired-worker beneficiaries. In the long-range period, entitled children were projected separately by sex of the wage-earner parent. To the numbers of children in the population, factors were applied representing the probabilities that the parent is alive, aged 62 or over, insured, and receiving a retired-worker benefit. Another factor was applied representing the probability that the child is not entitled to a benefit based on the other parent's earnings. For children aged 18, a factor was applied representing the probability that the child is attending a secondary school. The numbers of disabled children aged 18 and over of retired-worker beneficiaries were projected from the adult population in a similar manner, with the inclusion of a factor representing the probability of being disabled since childhood.

In the short-range period, the numbers of young-spouse beneficiaries were projected as a proportion of the projected numbers of child beneficiaries who are either under age 16 or disabled. In the long-range period, young-spouse beneficiaries were projected as a proportion of the projected numbers of child beneficiaries of retired workers, taking into account projected changes in average family size.

The numbers of aged-widow(er) beneficiaries were projected from the population by age and sex. In the short-range period, a regression equation projected the number of aged-widow(er) beneficiaries, as a proportion of the aged female or male population not receiving retired-worker or aged-spouse benefits. In the long-range period, aged-widow(er) beneficiaries were projected from the population by age, sex, and marital status. Four factors were applied to the numbers of widow(er)s in the population aged 60 and over. These factors represent the probabilities that (1) the deceased wage earner was fully insured at death, (2) the widow(er) is not receiving a benefit for the care of an entitled child, (3) the widow(er) is not fully insured, and (4) the widow(er)'s benefits are not withheld because of receipt of a significant government pension based on earnings in noncovered employment. In addition, some insured widow(er)s who had not applied for their retired-worker benefits are assumed to receive widow(er) benefits. Also, the same factors were applied to the numbers of divorced persons aged 60 and over in the population, with additional factors representing the probability that the person's former wage-earner spouse is deceased and that the marriage was at least 10 years in duration.

In the short-range period, the numbers of disabled-widow(er) beneficiaries were estimated as a proportion of the female or male population aged 50-64. In the long-range period, the numbers were projected for each age 50 through 64 as a percentage of the widowed and divorced populations, adjusted for the insured status of the deceased spouse and the prevalence of disability.

The projected numbers of children under age 18, and students aged 18, who are eligible for benefits as survivors of deceased workers, were based on the projected numbers of children in the population whose mothers or fathers are deceased. In the short-range period, a regression equation was used to project the number of minor-child-survivor beneficiaries as a percentage of such orphaned children. In the long-range period, the numbers of child-survivor beneficiaries were projected

in a manner analogous to that for child beneficiaries of retired workers, with the factor representing the probability that the parent is aged 62 or over being replaced by a factor that represented the probability that the parent is deceased.

In the short-range period, the numbers of mother-and-father-survivor beneficiaries were projected from the numbers of child-survivor beneficiaries who are either under age 16 or disabled. In the long-range period, mother-and-father-survivor beneficiaries were estimated from the numbers of child-survivor beneficiaries, taking into account projected changes in average family size.

The numbers of parent-survivor beneficiaries were projected based on the historical pattern of the numbers of such beneficiaries.

Table A2 shows the projected numbers of beneficiaries under the OASI program. Included among the beneficiaries who receive retired-worker benefits are some persons who also receive a residual benefit consisting of the excess of an auxiliary benefit over their retired-worker benefit. Estimates of the numbers of such residual payments were made separately for spouses and widow(er)s.

TABLE A2.—OASI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1945-2065
[In thousands]

	Retired workers and auxiliaries			Survivors				
Calendar year	Worker	Wife-husband	Child	Widow-widower	Mother-father	Child	Parent	Total
Past experience:								
1945	518	159	13	94	121	377	6	1,288
1950	1,771	508	46	314	169	653	15	3,477
1955	4,474	1,192	122	701	292	1,154	25	7,961
1960	8,061	2,269	268	1,544	401	1,577	36	14,157
1965	11,101	2,614	461	2,371	472	2,074	35	19,128
1970	13,349	2,668	546	3,227	523	2,688	29	23,030
1975	16,588	2,867	643	3,889	582	2,919	21	27,509
1980	19,562	3,016	639	4,411	562	2,610	15	30,814
1985	22,432	3,069	457	4,863	372	1,917	10	33,120
1986	22,987	3,088	450	4,931	350	1,875	9	33,690
1987	23,440	3,090	440	4,984	329	1,836	8	34,126
1988	23,858	3,086	432	5,029	318	1,810	7	34,539
1989	24,327	3,093	423	5,071	312	1,780	6	35,012
1990	24,838	3,101	422	5,111	304	1,776	6	35,559
Alternative I:								
1995	26,321	3,158	480	5,379	307	1,822	4	37,471
2000	27,384	3,134	515	5,506	313	1,919	3	38,774
2005	28,921	2,898	567	5,632	289	1,979	3	40,289
2010	32,185	2,649	632	5,829	279	2,004	3	43,581
2015	37,862	2,455	713	5,992	263	2,018	3	49,305
2020	44,762	2,340	791	6,141	253	2,052	3	56,342
2025	51,017	2,282	850	6,299	256	2,110	3	62,817
2030	55,573	2,188	895	6,352	262	2,173	3	67,444
2035	57,978	2,093	934	6,314	266	2,223	3	69,810
2040	58,505	1,993	956	6,228	269	2,262	3	70,216
2045	58,878	1,952	984	6,155	272	2,301	3	70,545
2050	59,936	1,965	1,018	6,098	277	2,347	3	71,645
2055	61,875	2,033	1,066	6,078	283	2,396	3	73,734
2060	64,048	2,100	1,108	6,101	288	2,444	3	76,093
2065	65,983	2,152	1,141	6,173	293	2,488	3	78,232
Alternative II:								
1995	26,475	3,171	478	5,403	308	1,827	4	37,666
2000	27,843	3,171	508	5,578	313	1,914	3	39,329
2005	29,729	3,020	565	5,641	303	1,922	3	41,183
2010	33,328	2,816	623	5,829	287	1,856	3	44,741
2015	39,351	2,658	692	5,986	272	1,784	3	50,746
2020	46,644	2,570	752	6,126	267	1,746	3	58,109
2025	53,323	2,530	789	6,280	269	1,738	3	64,933
2030	58,383	2,448	811	6,349	268	1,739	3	70,001
2035	61,272	2,356	828	6,354	265	1,736	3	72,815
2040	62,213	2,253	827	6,331	259	1,722	3	73,607
2045	62,848	2,213	828	6,323	254	1,704	3	74,172
2050	64,060	2,239	835	6,316	250	1,688	3	75,391
2055	66,036	2,334	856	6,306	246	1,672	3	77,453

TABLE A2.—OASI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1945-2065 (Cont.)
[In thousands]

Calendar year	Retired workers and auxiliaries			Survivors				Total
	Worker	Wife-husband	Child	Widow-widower	Mother-father	Child	Parent	
Alternative II: (Cont.)								
2060	68,030	2,421	872	6,290	243	1,655	3	79,513
2065	69,491	2,472	878	6,295	239	1,637	3	81,015
Alternative III:								
1995	26,636	3,185	475	5,429	306	1,814	4	37,848
2000	28,286	3,210	502	5,653	314	1,914	3	39,882
2005	30,497	3,143	562	5,653	337	1,941	3	42,135
2010	34,424	2,992	611	5,842	310	1,794	3	45,976
2015	40,827	2,884	669	6,001	273	1,600	3	52,256
2020	48,593	2,833	713	6,134	250	1,461	3	59,987
2025	55,820	2,833	729	6,274	241	1,390	3	67,289
2030	61,621	2,789	730	6,331	232	1,351	3	73,057
2035	65,369	2,726	728	6,344	222	1,321	3	76,713
2040	67,227	2,646	708	6,348	209	1,280	3	78,422
2045	68,706	2,636	689	6,368	196	1,233	3	79,832
2050	70,673	2,699	677	6,370	185	1,187	3	81,794
2055	73,226	2,846	680	6,331	175	1,141	3	84,402
2060	75,506	2,971	678	6,239	166	1,096	3	86,659
2065	76,850	3,032	668	6,151	157	1,051	3	87,912

Note: The numbers of beneficiaries do not include certain uninsured persons, most of whom both attained age 72 before 1968 and have fewer than 3 quarters of coverage, in which cases the costs are reimbursed by the general fund of the Treasury. The number of such uninsured persons was 7,433 as of December 31, 1990, and is estimated to be fewer than 500 by the turn of the century. Totals do not necessarily equal the sums of rounded components.

DISABILITY INSURANCE BENEFICIARIES

The numbers of DI beneficiaries were projected for each type of benefit separately, by the sex of the worker on whose earnings the benefits are based, and the age of the beneficiary. The numbers of disabled-worker beneficiaries were projected from the estimated numbers of such beneficiaries entitled on December 31, 1989, by adding new entitlements and subtracting terminations. The starting numbers of entitled disabled-worker beneficiaries were estimated by age, sex, and duration of entitlement, from the tabulated number of disabled-worker beneficiaries in current-payment status on December 31, 1989. The numbers of new entitlements during each year were projected by applying assumed disability incidence rates. In the short-range period, an age-adjusted rate was applied to the total age-adjusted disability insured population for each sex. In the long-range period, incidence rates by age and sex were applied to the projected disability insured population (excluding those already entitled to disabled-worker benefits) to obtain new entitlements. The numbers of terminations were projected by applying assumed termination rates to the disabled-worker population. In the short-range period, overall termination rates for each sex were projected based on recent experience and on expected changes in the administration of the DI program. In the long-range period, the numbers of terminations were projected by applying assumed death and recovery rates, by age, sex, and duration of entitlement, to the entitled disabled-worker population, and adding the number of disabled-worker beneficiaries automatically converted to retired-worker beneficiaries at the normal retirement age (currently, age 65).

The disability incidence rates, which declined during 1975-82, increased during 1983-85, remained steady during 1986-89, and resumed the increasing trend in 1990, are assumed to continue gradually increasing. The specific ultimate levels assumed are determined in two stages.

First, under an assumption of a constant normal retirement age of 65, the incidence rates are projected to increase through 2010. These levels, for alternative II, are higher by about 18 percent for males and 20 percent for females than the average rates for 1984-86. This produces age-adjusted rates in 2010 of 5.5 per thousand for males and 3.8 per thousand for females, and an age-sex-adjusted rate of 4.8 per thousand. Next, because of the increase in the normal retirement age, further increases are projected in incidence rates at ages over 60. These combined projected increases cause the total gross incidence rate to increase from the current 1989 levels of 4.7 per thousand for males and 3.2 per thousand for females to 7.2 per thousand for males and 5.3 per thousand for females in the year 2026 when the normal retirement age has reached its ultimate level of 67.

For the other alternatives, the disability incidence rates are assumed to follow patterns through time similar to the one for alternative II. For alternative I, the stage one levels are assumed to be roughly the same as those experienced during the last 5 years. The 2026 total gross inc idence rates are assumed to be 6.1 per thousand for males and 4.3 per thousand for females. For alternative III, the stage one levels are assumed to be higher by about 38 percent for males and 43 percent for females. This level is approximately 80 percent of the rate experienced in 1974, when incidence rates attained their highest level. The 2026 total gross incidence rates are assumed to be 8.3 per thousand for males and 6.2 per thousand for females.

The overall termination rates were projected quarterly in the short-range period. For alternative II, the rates were projected to increase from the relatively low levels of 1984-90, to levels comparable to the average experienced over the last decade. For alternative III, the termination rates increase more slowly and to lower levels, whereas for alternative I the termination rates increase more quickly and to higher levels.

In the long-range period, the death and recovery rates were projected by age, sex, and duration of entitlement. For all alternatives, the death rates are assumed to decline steadily throughout the 75-year projection period. For alternative II, they reach levels in 2065 approximately 30 percent lower for males and approximately 20 percent lower for females than those experienced by disabled-worker beneficiaries during 1977-80, the most recent period for which detailed data exist. The recovery rates are assumed to increase from 1989 levels until 1995, when they attain ultimate levels about 12 percent higher than those experienced during the period 1977-80, thereby allowing for the estimated effect of the periodic reviews required by provisions of law first enacted in 1980, and amended in 1983, 1984, and 1990.

For alternative I, the death rates in 2065 are assumed to be roughly 20 percent lower for males and approximately 10 percent lower for females than those experienced by disabled-worker beneficiaries during 1977-80, and the recovery rates are assumed to increase to levels 30 percent higher than those of the same period. For alternative III, the death rates in 2065 are assumed to be about 45 percent lower for males and approximately 35 percent lower for females than those experienced

during 1977-80, and recovery rates are assumed to be 5 percent lower than those experienced during 1977-80.

In the short-range period, the projected numbers of children under age 18, students aged 18, and disabled children aged 18 and over, who are eligible for benefits as children of disabled-worker beneficiaries, were projected by applying quarterly award and termination rates. Awards to the three categories of child beneficiaries were based on the numbers of awards to disabled-worker beneficiaries.

In the long-range period, the projected numbers of minor child and student beneficiaries were based on the projected numbers of children in the population by age. To these numbers of children were applied factors representing the probability that either of their parents is insured and disabled. The numbers of disabled children aged 18 and over were projected as a function of the numbers of disabled-worker beneficiaries and the size of the adult population.

In the short-range period, the numbers of young-spouse beneficiaries were projected by applying quarterly award and termination rates, where awards were based on the numbers of awards to child beneficiaries who are either under age 16 or disabled. The numbers of aged-spouse beneficiaries were also projected by applying quarterly award and termination rates, where awards were based on the number of awards to disabled-worker beneficiaries.

In the long-range period, the numbers of young-spouse beneficiaries were projected as a proportion of the projected numbers of child beneficiaries who are either under age 16 or disabled, taking into account projected changes in family size. The numbers of aged-spouse beneficiaries were projected as a proportion of the numbers of disabled-worker beneficiaries, based on recent experience and allowing for projected changes in marriage rates.

Table A3 shows the projected numbers of beneficiaries under the DI program.

TABLE A3.—DI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1960-2065
[In thousands]

Calendar year	Disabled workers	Auxiliaries		Total
		Wife-husband	Child	
Past experience:				
1960	455	77	155	687
1965	988	193	558	1,739
1970	1,493	283	889	2,665
1975	2,489	453	1,411	4,352
1980	2,859	462	1,358	4,678
1985	2,656	306	945	3,907
1986	2,727	301	965	3,993
1987	2,786	291	968	4,045
1988	2,830	281	963	4,074
1989	2,895	271	962	4,129
1990	3,011	266	989	4,266
Alternative I:				
1995	3,200	236	1,016	4,452
2000	3,505	235	1,072	4,812
2005	4,123	65	1,187	5,374
2010	4,872	75	1,219	6,166
2015	5,328	80	1,239	6,648
2020	5,566	84	1,275	6,925
2025	5,848	89	1,336	7,273
2030	5,903	89	1,398	7,390
2035	5,883	90	1,448	7,421
2040	5,999	92	1,491	7,583

TABLE A3.—DI BENEFICIARIES WITH MONTHLY BENEFITS IN CURRENT-PAYMENT STATUS AS OF DECEMBER 31 BY ALTERNATIVE, CALENDAR YEARS 1960-2065 (Cont.)
[In thousands]

Calendar year	Disabled workers	Auxiliaries		Total
		Wife-husband	Child	
Alternative I: (Cont.)				
2045	6,345	97	1,538	7,981
2050	6,609	101	1,591	8,301
2055	6,837	105	1,649	8,591
2060	6,965	107	1,706	8,779
2065	7,147	110	1,762	9,019
Alternative II:				
1995	3,440	256	1,093	4,789
2000	4,025	273	1,231	5,529
2005	4,688	73	1,351	6,112
2010	5,634	86	1,377	7,097
2015	6,217	93	1,373	7,683
2020	6,506	97	1,375	7,978
2025	6,820	103	1,401	8,324
2030	6,851	103	1,431	8,385
2035	6,793	103	1,455	8,351
2040	6,891	105	1,466	8,462
2045	7,244	111	1,474	8,828
2050	7,464	114	1,483	9,061
2055	7,591	116	1,498	9,205
2060	7,534	115	1,511	9,159
2065	7,526	115	1,522	9,163
Alternative III:				
1995	3,680	276	1,169	5,125
2000	4,681	325	1,438	6,444
2005	5,370	84	1,545	6,999
2010	6,563	100	1,560	8,223
2015	7,320	109	1,517	8,946
2020	7,702	114	1,474	9,290
2025	8,084	120	1,457	9,661
2030	8,117	121	1,449	9,686
2035	8,049	121	1,445	9,614
2040	8,155	123	1,423	9,701
2045	8,534	129	1,391	10,054
2050	8,697	132	1,359	10,187
2055	8,683	131	1,332	10,147
2060	8,369	127	1,305	9,801
2065	8,111	123	1,280	9,514

Note: Totals do not necessarily equal the sums of rounded components.

AVERAGE BENEFITS

Average benefits were projected by type of benefit based on recent historical averages, projected average Primary Insurance Amounts (PIAs), and projected ratios of average benefits to average PIAs. Average PIAs were calculated from projected distributions of beneficiaries by duration from year of award, average awarded PIAs, and increases thereto since the year of award, because of automatic benefit increases, recomputations to reflect additional covered earnings, and other factors. Average awarded PIAs were calculated from projected earnings histories, which were developed from the actual earnings histories associated with a sample of awards made in 1983.

For several types of benefits—retired-worker, aged-spouse, and aged-widow(er) benefits—the percentage of the PIA that is payable depends on the age at initial entitlement to benefits. Projected ratios of average benefits to average PIAs for these types of benefits were based on projections of age distributions at initial entitlement.

BENEFIT PAYMENTS

For each type of benefit, benefit payments were calculated as the product of a number of beneficiaries and a corresponding average monthly benefit. In the short-range period, benefit payments were calculated on a quarterly basis. In the long-range period, all benefit payments were calculated on an annual basis, using the number of beneficiaries on December 31. These amounts were adjusted to include retroactive payments to newly awarded beneficiaries, and other amounts not reflected in the regular monthly benefit payments.

Lump-sum death payments were calculated as the product of (1) the number of such payments, which was projected on the basis of the assumed death rates, the projected fully insured population, and the estimated percentage of the fully insured population that would qualify for benefits, and (2) the amount of the lump-sum death payment, which is $255 (unindexed in future years).

ADMINISTRATIVE EXPENSES

The projection of administrative expenses through 2000 was based on assumed increases in average wages, increases in the CPI, and increases in the number of beneficiaries. For years after 2000, administrative expenses are assumed to increase because of increases in the numbers of beneficiaries and increases in average wages which will more than offset assumed improvements in administrative productivity.

RAILROAD RETIREMENT FINANCIAL INTERCHANGE

Railroad workers are covered under a separate multi-tiered plan, the first tier being very similar to OASDI coverage. An annual financial interchange between the Railroad Retirement fund and the OASI and DI funds is made reflecting the difference between the amount of OASDI benefits that would be paid to railroad workers and their families if railroad employment had been covered under the OASDI program and the amount of OASDI payroll tax that would be received from railroad workers if they were covered directly under the OASDI program.

The effect of the financial interchange with the Railroad Retirement program was evaluated on the basis of trends similar to those used in estimating the cost of OASDI benefits. The resulting effect was annual short-range costs of about $3-5 billion and a long-range summarized cost of 0.03 percent of taxable payroll to the OASDI program.

BENEFITS TO UNINSURED PERSONS

The law provides for special monthly cash payments to certain uninsured persons who attained age 72 before 1968 or who have 3 quarters of coverage for each year after 1966 and before the year of attainment of age 72. The numbers of such uninsured persons were projected based on an extrapolation of the historical survival rate of the members of that group. The benefit payable to these uninsured persons is a fixed amount which increases by the percentage benefit increase applicable to regular OASDI benefits. These payments are made from

the OASI Trust Fund, which is then reimbursed from the general fund of the Treasury for the costs (including administrative expenses and interest) associated with providing payments to those persons with fewer than 3 quarters of coverage. The nonreimbursable payments are assumed to be insignificant after 2000. Neither the reimbursable payments nor the associated reimbursements are reflected in the cost rates or the income rates. These amounts are reflected, however, in tables which show trust fund operations.

MILITARY-SERVICE TRANSFERS

As a result of the 1983 amendments, the OASI and DI Trust Funds received lump-sum payments, in May 1983, for the cost (including administrative expenses) of providing additional benefit payments resulting from noncontributory wage credits for military service performed prior to 1957. Adjustments to the payments were made in 1985 and 1990, and additional adjustments will be made in 1995 and every fifth year thereafter. The adjustments for 1995 were estimated based on the change in interest rates since the determination of the adjustments in 1990. No adjustments after 1995 would be due unless actual interest rates are different from those assumed, or changes are made in the methods used to determine the military-service transfers.

INCOME FROM TAXATION OF BENEFITS

The OASI and DI Trust Funds are credited with the additional income taxes attributable to the partial taxation of OASDI benefit payments. For the short-range period, income to the trust funds from such taxation was estimated by applying the following two factors to total OASI and DI benefit payments: (1) the percentage of benefit payments that is taxable, and (2) the average tax rate applicable to those benefits. For the long-range period, income to the trust funds from such taxation was projected by applying factors representing the ratio of such income to total OASDI benefit payments under varying levels of income thresholds. Because the thresholds are constant in the law, their values in relation to future income and benefit levels decline. These factors were projected based on the results of a model developed by the Office of Tax Analysis, Department of the Treasury, relating OASDI benefit payments to total personal income for a sample of recent tax returns.

APPENDIX B.—SENSITIVITY ANALYSIS

This appendix presents estimates which illustrate the sensitivity of the long-range estimates to changes in selected individual assumptions. The estimates based on the three alternative sets of assumptions (see section VI) illustrate variations that result from different combinations of assumptions. In the sensitivity analysis presented in this appendix, the intermediate alternative II is used as the reference point, and one assumption at a time within that alternative is varied. Similar variations in the selected assumptions within the other alternatives would result in similar relative variations in the long-range estimates.

Each table that follows shows the effects of changing the particular assumption under consideration on the OASDI summarized income rates, summarized cost rates, and actuarial balances (as defined earlier in this report) for 25-year, 50-year, and 75-year valuation periods. Because the income rate varies only slightly with changes in assumptions, it is not considered in the discussion of the tables. The change in each of the actuarial balances is approximately equal to the change in the corresponding cost rate, but in the opposite direction.

TOTAL FERTILITY RATE

Table B1 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the ultimate total fertility rate. These assumptions are that the ultimate total fertility rate will be 1.6 children per woman (as assumed for alternative III), 1.9 (as assumed for alternative II), and 2.2 (as assumed for alternative I). The rate is assumed to change gradually from its current level and to reach the various ultimate values in 2015.

TABLE B1.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS FERTILITY ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Ultimate total fertility rate[1]		
	1.6	1.9	2.2
Summarized income rate:			
25-year: 1991-2015	13.14	13.14	13.14
50-year: 1991-2040	13.10	13.10	13.09
75-year: 1991-2065	13.14	13.11	13.08
Summarized cost rate:			
25-year: 1991-2015	11.64	11.67	11.70
50-year: 1991-2040	13.41	13.30	13.20
75-year: 1991-2065	14.67	14.19	13.74
Balance:			
25-year: 1991-2015	+ 1.50	+ 1.47	+ 1.44
50-year: 1991-2040	–.31	–.21	–.11
75-year: 1991-2065	–1.53	–1.08	–.66

[1]The total fertility rate for any year is the average number of children who would be born to a woman in her lifetime if she were to experience the birth rates by age observed in, or assumed for, the selected year, and if she were to survive the entire child-bearing period. The ultimate total fertility rate is assumed to be reached in 2015.

For the 25-year period, the cost rate for the three fertility assumptions varies by only 0.06 percent of taxable payroll. In contrast, the 75-year cost rate varies over a wide range, decreasing from 14.67 to 13.74 percent, as the assumed ultimate total fertility rate increases from 1.6 to 2.2. Similarly, while the 25-year actuarial balance varies by only 0.06 percent of taxable payroll, the 75-year actuarial balance varies over a much wider range, from –1.53 to –0.66 percent.

During the 25-year period, changes in fertility affect the working population only slightly and result in relatively minor changes in the number of child beneficiaries. Hence, the program cost is affected only slightly. For the 75-year long-range period, however, changes in fertility have a relatively greater impact on the labor force than on the beneficiary population. As a result, an increase in fertility significantly reduces the cost rate. Each increase of 0.1 in the ultimate total fertility rate increases the long-range actuarial balance by about 0.15 percent of taxable payroll.

DEATH RATES

Table B2 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about future reductions in death rates. The analysis was developed by varying the percentage decrease assumed to occur during 1991-2065 in the age-sex-adjusted death rate. The decreases assumed for this period are about 18 percent (as assumed for alternative I), 35 percent (as assumed for alternative II), and 51 percent (as assumed for alternative III).

TABLE B2.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS DEATH-RATE ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Reduction in death rates[1]		
	18 percent	35 percent	51 percent
Summarized income rate:			
25-year: 1991-2015	13.13	13.14	13.15
50-year: 1991-2040	13.08	13.10	13.12
75-year: 1991-2065	13.08	13.11	13.15
Summarized cost rate:			
25-year: 1991-2015	11.43	11.67	11.92
50-year: 1991-2040	12.83	13.30	13.81
75-year: 1991-2065	13.49	14.19	15.02
Balance:			
25-year: 1991-2015	+ 1.70	+ 1.47	+ 1.23
50-year: 1991-2040	+ .25	−.21	−.69
75-year: 1991-2065	−.41	−1.08	−1.88

[1]The measure of the reduction in death rates is the decrease in the age-sex-adjusted death rate during 1991-2065.

The variation in cost for the 25-year period is less pronounced than the variation for the 75-year period because the decreases in death rates are assumed to occur gradually and because of the specific changes in the age composition of the population that are projected to occur. The 25-year cost rate increases from 11.43 percent (for 18-percent lower ultimate death rates) to 11.92 percent (for 51-percent lower ultimate rates). The 75-year cost rate increases from 13.49 to 15.02 percent. The actuarial balance decreases from + 1.70 to + 1.23 percent for the 25-year period, and from –0.41 to –1.88 percent for the 75-year period.

Lower death rates cause both the income (as well as taxable payroll) and the outgo of the OASDI program to be higher than they would otherwise be. The relative increase in outgo, however, exceeds the relative increase in taxable payroll. For any given year, reductions in the death rates for people who have attained the normal retirement age (people whose death rates are the highest) increase the number of retired-worker beneficiaries (and, therefore, the amount of retirement benefits paid) without adding significantly to the number of covered

workers (and, therefore, to the taxable payroll). Although reductions for people aged 50 to normal retirement age do result in significant increases to the taxable payroll, those increases are not large enough to offset the sum of the additional retirement benefits mentioned above and the disability benefits paid to additional beneficiaries in this pre-retirement age group. At ages under 50, death rates are so low that even substantial reductions would not result in significant increases in the numbers of covered workers or beneficiaries. Consequently, if death rates for all ages are lowered by about the same relative amount, outgo increases at a rate greater than the rate of growth in payroll, thereby resulting in higher cost rates. Each additional 10-percentage-point reduction in the age-sex-adjusted death rate assumed to occur in 1991-2065, relative to the 35-percent reduction assumed for alternative II, decreases the long-range actuarial balance by about 0.40 percent of taxable payroll.

NET IMMIGRATION

Table B3 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the magnitude of net immigration. These assumptions are that the annual net immigration will be 600,000 persons (as assumed for alternative III), 750,000 persons (as assumed for alternative II), and 1,000,000 persons (as assumed for alternative I).

TABLE B3.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS NET-IMMIGRATION ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Net immigration per year		
	600,000	750,000	1,000,000
Summarized income rate:			
25-year: 1991-2015	13.14	13.14	13.13
50-year: 1991-2040	13.10	13.10	13.09
75-year: 1991-2065	13.12	13.11	13.10
Summarized cost rate:			
25-year: 1991-2015	11.71	11.67	11.60
50-year: 1991-2040	13.38	13.30	13.18
75-year: 1991-2065	14.28	14.19	14.06
Balance:			
25-year: 1991-2015	+ 1.43	+ 1.47	+ 1.54
50-year: 1991-2040	–.28	–.21	–.09
75-year: 1991-2065	–1.16	–1.08	–.96

For all three periods, the cost rate decreases with increasing rates of net immigration. For the 25-year period, the cost rate decreases from 11.71 percent of taxable payroll (for annual net immigration of 600,000 persons) to 11.60 percent (for annual net immigration of 1,000,000 persons). For the 50-year period, it decreases from 13.38 percent to 13.18 percent, and for the 75-year period, it decreases from 14.28 percent to 14.06 percent. The actuarial balance increases from + 1.43 to + 1.54 percent for the 25-year period, from –0.28 to –0.09 for the 50-year period, and from –1.16 to –0.96 percent for the 75-year period.

The cost rate decreases with increasing rates of net immigration because immigration occurs at relatively young ages, thereby increasing the numbers of covered workers earlier than the numbers of beneficiaries. Each additional group of 100,000 immigrants relative to the 750,000 net immigration assumed for alternative II, increases the long-range actuarial balance by about 0.05 percent of taxable payroll.

REAL-WAGE DIFFERENTIAL

Table B4 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the real-wage differential. These assumptions are that the ultimate real-wage differential will be 0.6 percentage point (as assumed for alternative III), 1.1 percentage points (as assumed for alternative II), and 1.7 percentage points (as assumed for alternative I). In each case, the ultimate annual increase in the CPI is assumed to be 4.0 percent (as assumed for alternative II), yielding ultimate percentage increases in average annual wages in covered employment of 4.6, 5.1, and 5.7 percent under alternatives III, II, and I, respectively.

TABLE B4.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS REAL-WAGE ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Ultimate percentage increase in wages-CPI[1]		
	4.6-4.0	5.1-4.0	5.7-4.0
Summarized income rate:			
25-year: 1991-2015	13.17	13.14	13.10
50-year: 1991-2040	13.14	13.10	13.05
75-year: 1991-2065	13.15	13.11	13.06
Summarized cost rate:			
25-year: 1991-2015	12.03	11.67	11.24
50-year: 1991-2040	13.81	13.30	12.71
75-year: 1991-2065	14.73	14.19	13.54
Balance:			
25-year: 1991-2015	+ 1.14	+ 1.47	+ 1.86
50-year: 1991-2040	−.67	−.21	+ .34
75-year: 1991-2065	−1.58	−1.08	−.48

[1]The first value in each pair is the assumed ultimate annual percentage increase in average wages in covered employment. The second value is the assumed ultimate annual percentage increase in the Consumer Price Index. The difference between the two values is the real-wage differential.

For the 25-year period, the cost rate decreases from 12.03 percent (for a real-wage differential of 0.6 percentage point) to 11.24 percent (for a differential of 1.7 percentage points). For the 50-year period, it decreases from 13.81 to 12.71 percent, and for the 75-year period it decreases from 14.73 to 13.54 percent. The actuarial balance increases from + 1.14 to + 1.86 percent for the 25-year period, from –0.67 to + .34 for the 50-year period, and from –1.58 to –0.48 percent for the 75-year period.

The cost rate decreases with increasing real-wage differentials, because the higher real-wage levels increase the taxable payroll, while benefit increases are not affected. Although the initial benefit levels are higher because of the higher wages, these increases are more than offset by the increases in the taxable payroll of future workers. Each 0.5-percentage-point increase in the assumed real-wage differential increases the long-range actuarial balance by about 0.50 percent of taxable payroll.

CONSUMER PRICE INDEX

Table B5 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the rate of increase for the Consumer Price Index (CPI). These assumptions are that the ultimate annual increase in the CPI will be 3.0 percent (as assumed for alternative I), 4.0 percent (as assumed for alternative II), and 5.0 percent (as assumed for alternative III). In each case, the ultimate real-wage differential is assumed to be 1.1 percentage points (as assumed for alternative II), yielding ultimate percentage

increases in average annual wages in covered employment of 4.1, 5.1, and 6.1 percent under alternatives I, II, and III, respectively.

TABLE B5.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS CPI-INCREASE ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Ultimate percentage increase in wages-CPI[1]		
	4.1-3.0	5.1-4.0	6.1-5.0
Summarized income rate:			
25-year: 1991-2015	13.15	13.14	13.13
50-year: 1991-2040	13.11	13.10	13.09
75-year: 1991-2065	13.12	13.11	13.10
Summarized cost rate:			
25-year: 1991-2015	11.79	11.67	11.55
50-year: 1991-2040	13.49	13.30	13.12
75-year: 1991-2065	14.41	14.19	13.98
Balance:			
25-year: 1991-2015	+ 1.36	+ 1.47	+ 1.59
50-year: 1991-2040	–.38	–.21	–.04
75-year: 1991-2065	–1.29	–1.08	–.88

[1]The first value in each pair is the assumed ultimate annual percentage increase in average wages in covered employment. The second value is the assumed ultimate annual percentage increase in the Consumer Price Index.

For all three periods, the cost rate decreases with greater assumed rates of increase in the CPI. For the 25-year period, the cost rate decreases from 11.79 (for CPI increases of 3.0 percent) to 11.55 percent (for CPI increases of 5.0 percent). For the 50-year period, it decreases from 13.49 to 13.12 percent, and for the 75-year period, it decreases from 14.41 to 13.98 percent. The actuarial balance increases from + 1.36 to + 1.59 percent for the 25-year period, from –0.38 to –0.04 for the 50-year period, and from –1.29 to –0.88 percent for the 75-year period.

The patterns described above result primarily from the time lag between the effects of the CPI changes on taxable payroll and on benefit payments. When assuming a greater rate of increase in the CPI (in conjunction with a constant real-wage differential), the effect on taxable payroll of the implied greater rate of increase in average wages is experienced immediately, while the effect on benefits of the greater rate of increase in the CPI is experienced with a lag of about 1 year. In addition, the effect on benefits of the greater rate of increase in average wages is experienced no sooner than 2 years later. Thus, the higher taxable payrolls have a stronger effect than the higher benefits, thereby resulting in lower cost rates. The effect of each 1.0-percentage-point increase in the rate of change assumed for the CPI is an increase in the long-range actuarial balance of about 0.20 percent of taxable payroll.

REAL-INTEREST RATE

Table B6 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about the annual real-interest rate for special public-debt obligations issuable to the trust funds. These assumptions are that the ultimate annual real-interest rate will be 1.5 percent (as assumed for alternative III), 2.3 percent (as assumed for alternative II), and 3.0 percent (as assumed for alternative I). In each case, the ultimate annual increase in the CPI is assumed to be 4.0 percent (as assumed for alternative II), resulting in ultimate annual yields of 5.6, 6.4, and 7.1 percent under alternatives III, II, and I, respectively.

TABLE B6.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS REAL-INTEREST ASSUMPTIONS
(As a percentage of taxable payroll)

Calendar years	Ultimate annual real-interest rate		
	1.5 percent	2.3 percent	3.0 percent
Summarized income rate:			
25-year: 1991-2015	13.12	13.14	13.16
50-year: 1991-2040	13.08	13.10	13.11
75-year: 1991-2065	13.10	13.11	13.12
Summarized cost rate:			
25-year: 1991-2015	11.73	11.67	11.62
50-year: 1991-2040	13.60	13.30	13.06
75-year: 1991-2065	14.66	14.19	13.81
Balance:			
25-year: 1991-2015	+ 1.39	+ 1.47	+ 1.54
50-year: 1991-2040	−.52	−.21	+ .05
75-year: 1991-2065	−1.56	−1.08	−.69

For the 25-year period, the cost rate decreases slightly with increasing real-interest rates from 11.73 percent (for an ultimate real-interest rate of 1.5 percent) to 11.62 percent (for an ultimate real-interest rate of 3.0 percent). For the 50-year period, it decreases from 13.60 to 13.06 percent, and for the 75-year period, it decreases from 14.66 to 13.81 percent. The actuarial balance increases from + 1.39 to + 1.54 percent for the 25-year period, from −0.52 to + 0.05 percent for the 50-year period, and from −1.56 to −0.69 percent for the 75-year period. Each 0.5-percentage-point increase in the assumed real-interest rate increases the long-range actuarial balance by about 0.29 percent of taxable payroll.

DISABILITY INCIDENCE RATES

Table B7 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions concerning future disability incidence rates. These assumptions provide that the total gross annual incidence rates will increase gradually from the 1989 levels of 4.7 per thousand for males and 3.2 per thousand for females to levels, in 2026, of 6.1 per thousand for males and 4.3 per thousand for females (as assumed in alternative I), 7.2 per thousand for males and 5.3 per thousand for females (as assumed in alternative II), and 8.3 per thousand for males and 6.2 per thousand for females (as assumed in alternative III).

TABLE B7.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS DISABILITY INCIDENCE ASSUMPTIONS
(As a percentage of taxable payroll)

Calendar years	Disability incidence rates based on alternative—		
	I	II	III
Summarized income rate:			
25-year: 1991-2015	13.14	13.14	13.14
50-year: 1991-2040	13.09	13.10	13.10
75-year: 1991-2065	13.11	13.11	13.11
Summarized cost rate:			
25-year: 1991-2015	11.55	11.67	11.80
50-year: 1991-2040	13.14	13.30	13.48
75-year: 1991-2065	14.00	14.19	14.39
Balance:			
25-year: 1991-2015	+ 1.59	+ 1.47	+ 1.35
50-year: 1991-2040	−.04	−.21	−.38
75-year: 1991-2065	−.90	−1.08	−1.28

For the 25-year period, the cost rate increases with increasing disability incidence rates from 11.55 percent (for the relatively low rates assumed for alternative I) to 11.80 percent (for the relatively high rates assumed for alternative III). For the 50-year period, it increases from 13.14 to 13.48 percent, and for the 75-year period, it increases from 14.00 to 14.39 percent. The actuarial balance decreases from + 1.59 to + 1.35 percent for the 25-year period, from –0.04 to –0.38 percent for the 50-year period, and from –0.90 to –1.28 percent for the 75-year period.

DISABILITY TERMINATION RATES

Table B8 shows the estimated OASDI income rates, cost rates, and actuarial balances, on the basis of alternative II with various assumptions about future disability termination rates.

For all three alternatives, death-termination rates by age and sex are assumed to decline throughout the 75-year period. At the end of that period, they reach levels that, in comparison to the corresponding annual rates experienced during the base period, 1977-80, are lower by about 20 percent for males and 10 percent for females for alternative I, lower by about 30 percent for males and 20 percent for females for alternative II, and lower by about 45 percent for males and 35 percent for females for alternative III.

For all three alternatives, ultimate recovery-termination rates by age and sex are assumed to be attained in 1995. For alternative I, they are about 30 percent higher than the corresponding rates experienced during the base period. For alternative III, they are about 5 percent lower than the base-period rates. For alternative II, such rates are about 12 percent higher than those experienced in the base period, in order to reflect the effects of the additional periodic reviews that began in 1981.

TABLE B8.—ESTIMATED OASDI INCOME RATES, COST RATES, AND ACTUARIAL BALANCES, BASED ON ALTERNATIVE II WITH VARIOUS DISABILITY TERMINATION ASSUMPTIONS
[As a percentage of taxable payroll]

Calendar years	Disability termination rates based on alternative—			
	–	I	II	III
Summarized income rate:				
25-year: 1991-2015		13.14	13.14	13.14
50-year: 1991-2040		13.10	13.10	13.10
75-year: 1991-2065		13.11	13.11	13.11
Summarized cost rate:				
25-year: 1991-2015		11.64	11.67	11.71
50-year: 1991-2040		13.26	13.30	13.37
75-year: 1991-2065		14.14	14.19	14.27
Balance:				
25-year: 1991-2015		+ 1.50	+ 1.47	+ 1.43
50-year: 1991-2040		–.16	–.21	–.27
75-year: 1991-2065		–1.03	–1.08	–1.16

For the 25-year period, the cost rate increases with decreasing disability termination rates from 11.64 percent (for the relatively high rates assumed for alternative I) to 11.71 percent (for the relatively low rates assumed for alternative III). For the 50-year period, it increases from 13.26 to 13.37 percent, and for the 75-year period, it increases from 14.14 to 14.27 percent. The actuarial balance decreases from + 1.50 to + 1.43 percent for the 25-year period, from –0.16 to –0.27 percent for the 50-year period, and from –1.03 to –1.16 percent for the 75-year period.

APPENDIX C

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of the Secretary

1991 Cost-of-Living Increase and Other Determinations

AGENCY: Social Security Administration, HHS.

ACTION: Notice.

SUMMARY: The Secretary has determined—

(1) A 5.4 percent cost-of-living increase in benefits under title II, effective for December 1990 (the Old-Age, Survivors, and Disability Insurance (OASDI) fund ratio, determined to be 74.7 percent for 1990, does not affect this cost-of-living increase);

(2) An increase in the Federal Supplemental Security Income (SSI) (title XVI) monthly benefit amounts for 1991 to $407 for an eligible individual, $610 for an eligible individual with an eligible spouse, and $204 for an essential person;

(3) The average of the total wages for 1989 to be $20,099.55;

(4) The amount of earnings a person must have to be credited with a quarter of coverage in 1991 to be $540;

(5) The monthly exempt amounts under the Social Security retirement earnings test for taxable years ending in calendar year 1991 to be $810 for beneficiaries age 65 through 69 and $590 for beneficiaries under age 65;

(6) The "bend points" used in the benefit formula for workers who become eligible for benefits in 1991 and in the formula for computing maximum family benefits;

(7) The deemed average wages total for 1989 to be $20,486.23;

(8) The Social Security contribution and benefit base to be $53,400 for remuneration paid in 1991 and self-employment income earned in taxable years beginning in 1991; and

(9) The "old-law" contribution and benefit base to be $39,600 for 1991.

FOR FURTHER INFORMATION CONTACT: Jeffrey L. Kunkel, Office of the Actuary, Social Security Administration, 6401 Security Boulevard, Baltimore, MD 21235, (301) 965–3013.

SUPPLEMENTARY INFORMATION: The Secretary is required by the Social Security Act (the Act) to publish within 45 days after the close of the third calendar quarter of 1990 the benefit increase percentage and the revised table of "special minimum" benefits (section 215(i)(2)(D)). Also, the Secretary is required to publish before November 1 the average of the total wages for 1989 (section 215(i)(2)(C)(ii)) and the OASDI fund ratio for 1990 (section 215(i)(2)(C)(ii)). Finally, the Secretary is required to publish on or before November 1 the contribution and benefit base for 1991 (section 230(a)), the amount of earnings required to be credited with a quarter of coverage in 1991 (section 213(d)(2)), the monthly exempt amounts under the Social Security retirement earnings test for 1991 (section 203(f)(8)(A)), the formula for computing a primary insurance amount for workers who first become eligible for benefits or die in 1991 (section 215(a)(1)(D)), and the formula for computing the maximum amount of benefits payable to the family of a worker who first becomes eligible for old-age benefits or dies in 1991 (section 203(a)(2)(C)).

OASDI Fund Ratio

General. Section 215(i) of the Act provides for automatic cost-of-living increases in OASDI benefit amounts. This section also includes a "stabilizer" provision that can limit the automatic OASDI benefit increase under certain circumstances. If the combined assets of

the OASI and DI Trust Funds, as a percentage of annual expenditures, are below a specified threshold, the automatic benefit increase is equal to the lesser of (1) the increase in average wages or (2) the increase in prices. The threshold specified for the OASDI fund ratio is 20.0 percent for benefit increases for December of 1989 and later. The amendments also provide for subsequent "catch-up" benefit increases for beneficiaries whose previous benefit increases were affected by this provision. "Catch-up" benefit increases can occur only when trust fund assets exceed 32.0 percent of annual expenditures.

Computation. Section 215(i) specifies the computation and application of the OASDI fund ratio. The OASDI fund ratio for 1990 is the ratio of (1) the combined assets of the OASI and DI Trust Funds at the beginning of 1990, including advance tax transfers for January 1990, to (2) the estimated expenditures of the OASI and DI Trust Funds during 1990, excluding transfer payments between the OASI and DI Trust Funds, and reducing any transfers to the Railroad Retirement Account by any transfers from that account into either trust fund.

Ratio. The combined assets of the OASDI and DI Trust Funds at the beginning of 1990 (including advance tax transfers for January 1990) equaled $188,864 million, and the expenditures are estimated to be $252,906 million. Thus, the OASDI fund ratio for 1990 is 74.7 percent, which exceeds the applicable threshold of 20.0 percent. Therefore, the stabilizer provision does not affect the benefit increase for December 1990. Although the OASDI fund ratio exceeds the 32.0-percent threshold for potential "catch-up" benefit increases, no past benefit increase has been reduced under the stabilizer provision. Thus, no "catch-up" benefit increase is required.

Cost-of-Living Increases

General. The cost-of-living increase is 5.4 percent for benefits under titles II and XVI of the Act.

Under title II, old-age, survivors, and disability insurance benefits will increase by 5.4 percent beginning with the December 1990 benefits, which are payable on January 3, 1991. This increase is unaffected by the stabilizer provision, as described above. This increase is based on the authority contained in section 215(i) of the Act (42 U.S.C. 415(i)).

Under title XVI, Federal SSI payment levels will also increase by 5.4 percent effective for payments made for this month of Janaury 1991 but paid on December 31, 1990. This is based on the authority contained in section 1617 of the Act (42 U.S.C. 1382f). The percentage increase effective January 1991 is the same as the title II benefit increase and the annual payment amount is rounded, when not a multiple of $12, to the next lower multiple of $12. (The stabilizer provision does not affect SSI payment levels.)

Automatic Benefit Increase Computation. Under section 215(i) of the Act, the third calendar quarter of 1990 is a cost-of-living computation quarter for all the purposes of the Act. The Secretary is, therefore, required to increase benefits, effective with December 1990, for individuals entitled under section 227 or 228 of the Act, to increase primary insurance amounts of all other individuals entitled under title II of the Act, and to increase maximum benefits payable to a family. For December 1990, the benefit increase is the percentage increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers from the third quarter of 1989 through the third quarter of 1990. The December 1990 benefit increases is not affected by the stabilizer provision because the OASDI fund ratio for 1990 exceeds the 20.0 percent threshold fixed by statute.

Section 215(i)(1) of the Act provides that the Consumer Price Index for a cost-of-living computation quarter shall be the arithmetic mean of this index for the 3 months in that quarter. The Department of Labor's Consumer Price Index for Urban Wage Earners and Clerical Workers for each month in the

quarter ending September 30, 1989, was: for July 1989, 123.2; for August 1989, 123.2; and for September 1989, 123.6. The arithmetic mean for this calendar quarter is 123.3 (after rounding to the nearest 0.1). The corresponding Consumer Price Index for each month in the quarter ending September 30, 1990 was: For July 1990, 128.7; for August 1990, 129.9; and for September 1990, 131.1. The arithmetic mean for this calendar quarter is 129.9. Thus, because the Consumer Price Index for the calendar quarter ending September 30, 1990, exceeds that for the calendar quarter ending September 30, 1989 by 5.4 percent, a cost-of-living benefit increase of 5.4 percent is effective for benefits under title II of the Act beginning December 1990.

Title II Benefit Amounts. In accordance with section 215(i) of the Act, in the case of insured workers and family members for whom eligibility for benefits (i.e., the worker's attainment of age 62, or disability or death before age 62) occurred before 1991, benefits will increase by 5.4 percent beginning with benefits for December 1990 which are payable on January 3, 1991. In the case of first eligibility after 1990, the 5.4 percent increase will not apply.

For eligibility after 1978, benefits are generally determined by a benefit formula provided by the Social Security Amendments of 1977 (Pub. L. 95–216), as described later in this notice.

For eligibility before 1979, benefits are determined by means of a benefit table. In accordance with section 215(i)(4) of the Act, the primary insurance amounts and the maximum family benefits shown in this table are revised by (1) increasingly by 5.4 percent the corresponding amounts established by the last cost-of-living increase and the last extension of the benefit table made under section 215(i)(4) (to reflect the increase in the contribution and benefit base for 1990); and (2) by extending the table to reflect the higher monthly wage and related benefit amounts now possible under the increased contribution and benefit base for 1991, as described later in this notice. A copy of this table may be obtained by writing to: Social Security Administration, Office of Public Affairs, Office of Public Inquiries, 4100 Annex, Baltimore, MD 21235.

Section 215(i)(2)(D) of the Act also requires that, when the Secretary determines an automatic increase in Social Security benefits the Secretary shall publish in the **Federal Register** a revision of the range of the primary insurance amounts and corresponding maximum family benefits based on the dollar amount and other provisions described in section 215(a)(1)(C)(i). These benefits are referred to as "special minimum" benefits and are payable to certain individuals with long periods of relatively low earnings. In accordance with section 215(a)(1)(C)(i), the table below shows the revised range of primary insurance amounts and corresponding maximum family benefit amounts after the 5.4 percent benefit increase.

SPECIAL MINIMUM PRIMARY INSURANCE AMOUNTS AND MAXIMUM FAMILY BENEFITS

Special minimum primary insurance amount payable for December 1989	Number of years required at minimum earnings level	Special minimum primary insurance amount payable for December 1990	Special minimum family benefit payable for December 1990
$21.90	11	$23.00	$34.70
43.60	12	45.90	69.20
65.60	13	69.10	104.00
87.40	14	92.10	138.30
109.30	15	115.20	172.80
131.20	16	138.20	207.80
153.10	17	161.30	242.30
175.00	18	184.40	276.80
196.90	19	207.50	311.40
218.60	20	230.40	345.90
240.80	21	253.80	380.80
262.50	22	276.60	415.20
284.60	23	299.90	450.30
306.40	24	322.90	484.80
328.20	25	345.90	519.00
350.30	26	369.20	554.20
372.20	27	392.20	588.70
393.20	28	415.10	623.10
415.70	29	438.10	657.90
437.60	30	461.20	692.20

Section 227 of the Act provides flat-rate benefits to a worker who became age 72 before 1969 and was not insured under the usual requirements, and to his or her spouse or surving spouse. Section 228 of the Act provides similar benefits at age 72 for certain uninsured persons. The current monthly benefit amount of $159.00 for an individual under sections 227 and 228 of the Act is increased by 5.4 percent to obtain the new amount of $167.50. The present montly benefit amount of $79.60 for a spouse under section 227 is increased by 5.4 percent to $83.80.

Title XVI Benefit Amounts. In accordance with section 1617 of the Act, Federal SSI benefit amounts for the aged, blind, and disabled are increased by 5.4 percent effective January 1991. Therefore, the yearly Federal SSI benefit amounts of $4,632 for an eligible individual, $6,948 for an eligible individual with an eligible spouse, and $2,316 for an essential person, which became effective January 1990, are increased, effective January 1991, to $4,884, $7,320, and $2,448, respectively, after rounding. The corresponding monthly amounts for 1991 are determined by dividing the yearly amounts by 12, giving $407, $610, and $204, respectively. The monthly amount is reduced by subtracting monthly countable income. In the case of an eligible individual with an eligible spouse, the amount payable is further divided equally between the two spouses.

Averages of the Total Wages for 1989

General. Under provisions of the Act, several amounts are scheduled to increase automatically for 1991. These include (i) the contribution and benefit base, (ii) the "old law" contribution and benefit base (as determined under section 230 of the Act as in effect before the 1977 amendments), (iii) the amount of earnings required for a worker to be credited with a quarter of coverage, (iv) the retirement test exempt amounts, and (v) the "bend points" in the PIA and maximum family benefit formulas. Normally, all of these amounts are based on the increase in the average of the total wages.

However, section 10208 of Pub. L. 101-239 (the Omnibus Budget Reconciliation Act of 1989) requires that the contribution and beneftis base and the "old law" contribution and benefit base be determined under a "transitional rule" using deemed average wage amounts. The deemed average wages and the resulting bases are determined later in this notice.

The determination of the average wage figure for 1989 is based on the 1988 average wage figure of $19,334.04 announced in the **Federal Register** on October 31, 1989 (54 FR 45801), along with the percentage increase in average wages from 1988 to 1989 measured by annual wage data tabulated by the Social Security Administration (SSA). The average amounts of wages calculated directly from this data were $18,274.38 and $18,997.93 for 1988 and 1989, respectively. To determine an average wage figure for 1989 at a level that is consistent with the series of average wages for 1951 through 1977 (published December 29, 1978, at 43 FR 61016), we multiplied the 1988 average wage figure of $19,334.04 by the percentage increase in average wages from 1988 to 1989 (based on SSA-tabulated wage data) as follows (with the result rounded to the nearest cent): Average wage for 1989 = $19,334.04 × $18,997.93 ÷ $18,274.38 = $20,099.55. Therefore, the average wage for 1989 is determined to be $20,099.55.

Quarter of Coverage Amount

General. The 1991 amount of earnigns required for a quarter of coverage is $540. A quarter of coverage is the basic unit for determining whether a worker is insured under the Social Security program. For years before 1978, an individual generally was credited with a quarter of coverage for each quarter in which wages of $50 or more were paid, or an individual was credited with 4 quarters of coverage for every taxable

year in which $400 or more of self-employment income was earned. Beginning in 1978, wages generally are no longer reported on a quarterly basis; instead, annual reports are made. With the change to annual reporting, section 352(b) of the Social Security Amendments of 1977 (Pub. L. 95–216) amended section 213(d) of the Act to provide that a quarter of coverage would be credited for each $250 of an individual's total wages and self-employment income for calendar year 1978 (up to maximum of 4 quarters of coverage for the year).

Computation. Under the prescribed formula, the quarter of coverage amount for 1991 shall be equal to the 1978 amount of $250 multiplied by the ratio of (1) the average amount, per employee, of total wages for calendar year 1989 to (2) the average amount of those wages reported for calendar year 1976. The section further provides that if the amount so determined is not a multiple of $10, it shall be rounded to the nearest multiple of $10.

Average Wages. The average wage for calendar year 1976 was previously determined to be $9,226.48. This was published in the **Federal Register** on December 29, 1978, at 43 FR 61016. The average wage for calendar year 1989 has been determined to be $20,099.55 as stated above.

Quarter of Coverage Amount. The ratio of the average wage for 1989, $20,099.55, compared to that for 1976, $9,226.48, is 2.1784635. Multiplying the 1978 quarter of coverage amount of $250 by the ratio of 2.1784635 produces the amount of $544.62, which must then be rounded to $540. Accordingly, the quarter of coverage amount is determined to be $540 for 1991.

Retirement Earnings Test Exempt Amounts

(a) *Beneficiaries Aged 70 or Over.* Beginning with months after December 1982, there is no limit on the amount an individual aged 70 or over may earn and still receive Social Security benefits.

(b) *Beneficiaries Aged 65 through 69.* The retirement earnings test monthly exempt amount for beneficiaries aged 65 through 69 is stated int he Act of section 203(f)(8)(D) for years 1978 through 1982. A formula is provided in section 203(f)(8)(B) for computing the exempt amount applicable for years after 1982. The monthly exempt amount for 1990 was determined by this formula to the $780. Under the formula, the exempt amount for 1991 shall be the 1990 exempt amount multiplied by the ratio of (1) the average amount, per employee, of the total wages for calendar year 1989 to (2) the average amount of those wages for calendar year 1988. The section further provides that if the amount so determined is not a multiple of $10, it shall be rounded to the nearest multiple of $10.

Average Wages. The average wage for 1989, as determined above, is $20,099.55. Therefore, the ratio of the average wages for 1989, $20,099.55, compared to that for 1988, $19,334.04, is 1.0395939.

Exempt Amount for Beneficiaries Aged 65 through 69. Multiplying the 1990 retirement earnings test monthly exempt amount of $780 by the ratio of 1.0395939 produces the amount of $810.88. This must then be rounded to $810. The retirement earnings test monthly exempt amount for beneficiaries aged 65 through 69 is determined to be $810 for 1991. The corresponding retirement earnings test annual exempt amount for these beneficiaries is $9,720.

(c) *Beneficiaries Under Age 65.* Section 203 of the Act provides that beneficiaries under age 65 have a lower retirement earnings test monthly exempt amount than those beneficiaries aged 65 through 69. The exempt amount for beneficiaries under age 65 is determined by a formula provided in section 203(f)(8)(B) of the Act. Under the formula, the monthly exempt amount for beneficiaries under age 65 is $570 for 1990. The formula provides that the exempt amount for 1991 shall be the 1990 exempt amount for beneficiaries under age 65 multiplied by the ratio of (1) the average amount, per employee, of the toal wages for calendar year 1989 to (2) the average amount of those wages for calendar year 1988. The section further provides that if the amount so determined is not a multiple of $10, it shall be rounded to the nearest multiple of $10.

Average Wages. The average wage for 1989, as determined above, is $20,099.55. Therefore, the ratio of the average wages for 1989, $20,099.55, compared to that of 1988, $19,334.04, is 1.0395939.

Exempt Amount for Beneficiaries Under Age 65. Multiplying the 1990 retirement earnings test monthly exempt amount of $570 by the ratio 1.03955939 produces the amount of $592.57. This must then be rounded to $590. The retirement earnings test monthly exempt amount for beneficiaries under age 65 is thus determined to be $590 for 1991. The corresponding retirement earnings test annual exempt amount for these beneficiaries is $7,080.

Computing Benefits After 1978

General. The Social Security Amendments of 1977 provided a new method for determining an individual's primary insurance amount. This method uses a formula based on "wage indexing" and was fully explained with interim regulations and final regulations published in the **Federal Register** on December 29, 1978, at 43 FR 60877 and July 15, 1982, at 47 FR 30731 respectively. It generally applies when a worker after 1978 attains age 62, becomes disabled, or dies before age 62. The formula uses the worker's earnings after they have been adjusted, or "indexed," in proportion to the increase in average wages of all workers. Using this method, we determine the worker's "average indexed monthly earnings." We then compute the primary insurance amount, using the worker's average indexed monthly earnings. The computation formula is adjusted automatically each year to reflect changes in general wage levels.

Average Indexed Monthly Earnings. To assure that a worker's future benefits reflect the general rise in the standard of living that occurs during his or her working lifetime, we adjust or "index" the worker's past earnings to take into account the change in general wage levels that has occurred during the worker's years of employment. These adjusted earnings are then used to compute the worker's primary insurance amount.

For example, to compute the average indexed monthly earnings for a worker attaining age 62, becoming disabled, or dying before attaining age 62, in 1991, we divide the average of the total wages for 1989, $20,099.55, by the average of the total wages for each year prior to 1989 in which the worker had earnings. We then multiply the actual wages and self-employment income as defined in section 211(b) of the Act credited for each year by the corresponding ratio to obtain the worker's adjusted earnings for each year. After determining the number of years we must use to compute the primary insurance amount, we pick those years with highest indexed earnings, total those indexed earnings and divide by the total number of months in those years. This figure is rounded down to the next lower dollar amount, and becomes the average indexed monthly earnings figure to be used in computing the worker's primary insurance amount for 1991.

Computing the Primary Insurance Amount. The primary insurance amount is the sum of three separate percentages of portions of the average indexed monthly earnings. In 1979 (the first year the formula was in effect), these portions were the first $180, the amount between $180 and $1,085, and the amount over $1,085. The dollar amounts in the formula which govern the portions of the average indexed monthly earnings are frequently referred to as the "bend points" of the formula. Thus, the bend points for 1979 were $180 and $1,085.

The bend points for 1991 are obtained by multiplying the corresponding 1979 bend-point amounts by the ratio between the average of the total wages for 1989, $20,099.55, and for 1977, $9,779.44. These results are then rounded to the nearest dollar. For 1991, the ratio is 2.0552864. Multiplying the 1979 amounts of $180 and $1,085 by 2.0552864 produces the amounts of $369.95 and $2,229.99. These must then be rounded to $370 and $2,230. Accordingly, the portions of the average indexed monthly earnings to be used in 1991 are determined to be the first $370, the amount between $370 and $2,230, and the amount over $2,230.

Consequently, for individuals who first become eligible for old-age insurance benefits or disability insurance benefits in 1991, or who die in 1991 before becoming eligible for benefits, we will compute their primary

insurance amount by adding the following:

(a) 90 percent of the first $370 of their average indexed monthly earnings, plus

(b) 32 percent of the average indexed monthly earnings over $370 and through $2,230, plus

(c) 15 percent of the average indexed monthly earnings over $2,230.

This amount is then rounded to the next lower multiple of $.10 if it is not already a multiple of $.10. This formula and the adjustments we have described are contained in section 215(a) of the Act (42 U.S.C. 415(a)).

Maximum Benefits Payable to a Family

General. The 1977 Amendments continued the long established policy of limiting the total monthly benefits which a worker's family may receive based on his or her primary insurance amount. Those amendments also continued the then existing relationship between maximum family benefits and primary insurance amounts but did change the method of computing the maximum amount of benefits which may be paid to a worker's family. The Social Security Disability Amendments of 1980 (Pub. L. 96–265) established a new formula for computing the maximum benefits payable to the family of a disabled worker. This new formula is applied to the family benefits of workers who first become entitled to disability insurance benefits after June 30, 1980, and who first become eligible for these benefits after 1978. The new formula was explained in a final rule published in the **Federal Register** on May 8, 1981, at 46 FR 25601. For disabled workers initially entitled to disability benefits before July 1980, or whose disability began before 1979, the family maximum payable is computed the same as the old-age and survivor family maximum.

Computing the Old-Age and Survivor Family Maximum. The formula used to compute the family maximum is similar to that used to compute the primary insurance amount. It involves computing the sum of four separate percentages of portions of the worker's primary insurance amount. In 1979, these portions were the first $230, the amount between $230 and $332, the amount between $332 and $433, and the amount over $433. The dollar amounts in the formula which govern the portions of the primary insurance amount are frequently referred to as the "bend points" of the family-maximum formula. Thus, the bend points for 1979 were $230, $332, and $433.

The bend points for 1991 are obtained by multiplying the corresponding 1979 bend-point amounts by the ratio between the average of the total wages for 1989, $20,099.55, and the average for 1977, $9,779.44. This amount is then rounded to the nearest dollar. For 1991, the ratio is 2.0552864. Multiplying the amounts of $230, $332, and $433 by 2.0552864 produces the amounts of $472.72, $682.36, and $889.94. These amounts are then rounded to $473, $682, and $890. Accordingly, the portions of the primary insurance amounts to be used in 1991 are determined to be the first $473, the amount between $473 and $682, the amount between $682 and $890, and the amount over $890.

Consequently, for the family of a worker who becomes age 62 or dies in 1991, the total amount of benefits payable to them will be computed so that it does not exceed:

(a) 150 percent of the first $473 of the worker's primary insurance amount, plus

(b) 272 percent of the worker's primary insurance amount over $473 through $682, plus

(c) 134 percent of the worker's primary insurance amount over $682 through $890, plus

(d) 175 percent of the worker's primary insurance amount over $890.

This amount is then rounded to the next lower multiple of $.10 if it is not already a multiple of $.10. This formula and the adjustments we have described are contained in section 203(a) of the Act (42 U.S.C. 403(a)).

Deemed Average of the Total Wages Under Transitional Rule

Section 10208 of Public Law 101–239, which amended section 209 of the Act (42 U.S.C. 409), provides a transitional rule for computing the average of the total wages used in the formula for determining the contribution and benefit base and the "old-law" contribution and benefit base. The transitional rule was used to determine the bases for 1990 and will be used to determine the bases for 1991 and 1992. The determination of the 1990 bases was published as a notice in the **Federal Register** on December 29, 1989, at 54 FR 53751, and superseded the determination as a notice in the **Federal Register** on October 31, 1989, at 54 FR 45801.

Computation. Under the transitional rule, the deemed average of the total wages for 1989 is equal to the average of the total wages for 1989, as determined above, plus 2 percent of the average wage amount determined for 1988.

Amount. The average wage amount announced above for 1989 was $20,099.55. The average wage amount announced for 1988 in the **Federal Register** on October 31, 1989 (54 FR 45801), was $19,334.04. Two percent of $19,334.04 is $386.68, and the sum of this amount and $20,099.55 is $20,486.23. Therefore, the deemed average wage under the transitional rule for 1989, as used below to determine the bases for 1991, is $20,486.23.

Contribution and Benefit Base

General. The contribution and benefit base is $53,400 for remuneration paid in 1991 and self-employment income earned in taxable years beginning in 1991.

The contribution and benefit base serves two purposes:

(1) It is the maximum annual amount of earnings on which Social Security taxes are paid.

(2) It is the maximum annual amount used in determining a persons' Social Security benefits.

Computation. Section 230(c) of the Act provides a table with the contribution and benefit base for each year 1978, 1979, 1980, and 1981. For years after 1981, section 230(b) of the Act contains a formula for determining the contribution and benefit base. This formula was amended by section 10208 of Public Law 101–239 to substitute deemed average wage amounts for average wage amounts. Under the prescribed formula, the contribution and benefit base for 1991 shall be equal to the 1990 base of $51,300 multiplied by the ratio of (1) the deemed average amount, per employee, of total wages for the calendar year 1989 to (2) the deemed average amount of those wages for the calendar year 1988. Section 230(b) further provides that if the amount so determined is not a multiple of $300, it shall be rounded to the nearest multiple of $300.

Deemed Average Wages. The deemed average wage for calendar year 1988 was previously determined to be $19,702.57. That determination was published as a notice in the **Federal Register** on December 29, 1989, at 54 FR 53751. The deemed average wage for calendar year 1989 has been determined to be $20,486.23, as stated above.

Amount. The ratio of the deemed average wage for 1989, $20,486.23, compared to the deemed average wage for 1988, $19,702.57, is 1.0397745. Multiplying the 1990 contribution and benefit base amount of $51,300 by the ratio of 1.0397745 produces the amount of $53,340.43 which must then be rounded to $53,400. Accordingly, the contribution and benefit base is determined to be $53,400 for 1991.

"Old-Law" Contribution and Benefit Base

General. The 1991 "old-law" contribution and benefit base is $39,600. This is the base that would have been effective under the Act without the enactment of the 1977 amendments. The base is computed under section 230(b) of the Act as it read prior to the 1977 amendments.

The "old-law" contribution and benefit base is used by:

(1) The Railroad Retirement program to determine certain tax liabilities and tier II benefits payable under that program to supplement the tier I payments which correspond to basic Social Security benefits.

(2) The Pension Benefit Guaranty Corporation to determine the maximum

amount of pension guaranteed under the Employee Retirement Income Security Act (as stated in section 230(d) of the Act), and

(3) Social Security to determine a "year of coverage" in computing the "special minimum" benefit and in computing benefits for persons who are also eligible to receive pensions based on employment not covered under section 210 of the Act.

Computation. The base is computed using the automatic adjustment formula in section 230(b) of the Act as it read prior to the enactment of the 1977 amendments, but as amended by section 10208 of Public Law 101–239. Under the formula, the "old-law" contribution and benefit base shall be the "old-law" 1990 base multiplied by the ratio of (1) the deemed average amount, per employee, of total wages for the calendar year of 1989 to (2) the deemed average amount of those wages for the calendar year of 1988. If the amount so determined is not a multiple of $300, it shall be rounded to the nearest multiple of $300.

Deemed Average Wages. The deemed average wage for calendar year 1988 was previously determined to be $19,702.57. The deemed average wage for calendar year 1989 has been determined to be $20,486.23, as stated above.

Amount. The ratio of the deemed average wage for 1989, $20,486.23, compared to the deemed average wage for 1988, $19,702.57, is 1.0397745. Multiplying the 1990 "old-law" contribution and benefit base amount of $38,100 by the ratio of 1.0397745 produces the amount of $39,615.41 which must then be rounded to $39,600. Accordingly, the "old-law" contribution and benefit base is determined to be $39,600 for 1991.

(Catalog of Federal Domestic Assistance Programs Nos. 93.802–93.805, and 93.807 Social Security Programs)

Dated: October 25, 1990.

Louis W. Sullivan,

Secretary of Health and Human Services.

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APPENDIX D.—AUTOMATIC ADJUSTMENTS UNDER OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE

The Social Security Act specifies that certain program amounts affecting the determination of OASDI benefits are to be adjusted annually, in general, to reflect changes in the economy. The law prescribes specific formulas which, when applied to reported statistics, produce "automatic" revisions in these program amounts and hence in the benefit-computation procedures.

In this appendix, values are shown for the program amounts which are subject to automatic adjustment, from the time that such adjustments became effective through 1991. Projected values for future years through 2000, based on the intermediate set of assumptions (alternative II), are also shown. Many of these assumptions are described in the subsection of this report entitled "Economic and Demographic Assumptions" and are shown in tables 10 and 11. The subsection entitled "Automatic Adjustments," and Appendix C, provide a more complete description of the program amounts affected by the automatic-adjustment procedures.

Under section 215(b)(3) of the Social Security Act, the average amount of total wages for each year after 1950 is used to index the earnings of most workers first becoming eligible for benefits in 1979 or later. This procedure converts a worker's past earnings to approximately their equivalent values near the time of the worker's retirement or other eligibility, and these values are used to calculate the worker's Average Indexed Monthly Earnings (AIME). The average amount of total wages for each year is also used to adjust most of the program amounts that are subject to the automatic-adjustment provisions. A copy of the notice announcing the average wage for 1989, including a brief description of its derivation, is shown in Appendix C. Table D1 shows the average amount of total wages as announced for each year 1951 through 1989.

TABLE D1.—AVERAGE AMOUNT OF TOTAL WAGES, CALENDAR YEARS 1951-89

Year	Amount	Year	Amount	Year	Amount
1951	$2,799.16	1966	$4,938.36	1981	$13,773.10
1952	2,973.32	1967	5,213.44	1982	14,531.34
1953	3,139.44	1968	5,571.76	1983	15,239.24
1954	3,155.64	1969	5,893.76	1984	16,135.07
1955	3,301.44	1970	6,186.24	1985	16,822.51
1956	3,532.36	1971	6,497.08	1986	17,321.82
1957	3,641.72	1972	7,133.80	1987	18,426.51
1958	3,673.80	1973	7,580.16	1988	19,334.04
1959	3,855.80	1974	8,030.76	1989	20,099.55
1960	4,007.12	1975	8,630.92		
1961	4,086.76	1976	9,226.48		
1962	4,291.40	1977	9,779.44		
1963	4,396.64	1978	10,556.03		
1964	4,576.32	1979	11,479.46		
1965	4,658.72	1980	12,513.46		

Table D2 shows the estimated average amount of total wages for each year 1990 through 2000, based on the three alternative sets of assumptions.

TABLE D2.—ESTIMATED AVERAGE AMOUNT OF TOTAL WAGES BY ALTERNATIVE, CALENDAR YEARS 1990-2000

Calendar year	I	II	III
1990	$21,065.56	$21,024.11	$20,944.24
1991	21,832.13	21,780.69	21,471.79
1992	22,867.18	22,925.64	22,743.06
1993	24,010.14	24,143.42	24,388.27
1994	25,180.76	25,384.98	25,843.50
1995	26,439.35	26,737.74	26,903.97
1996	27,741.59	28,141.28	28,680.36
1997	29,111.22	29,613.54	30,400.25
1998	30,524.65	31,147.78	32,129.10
1999	32,031.58	32,765.1[1]	33,950.96
2000	33,623.53	34,464.16	35,859.73

The provisions for automatic cost-of-living increases in OASDI benefits were originally enacted in 1972 and first became effective with the benefit increase effective for June 1975. The determination of the benefit increase effective for December 1990 is shown in Appendix C. Table D3 shows the automatic benefit increases determined for each year 1975-90, and the benefit increases for each year 1991-2000, on the basis of the intermediate set of assumptions.

The law provides for an automatic increase in the contribution and benefit base for the year following a year in which an automatic benefit increase became effective. The base for 1975 was the first one determined on this basis. (Amendments enacted in December 1973 provided that the 11-percent general benefit increase that became effective in 1974 would be considered an automatic cost-of-living benefit increase for purposes of the automatic-adjustment provisions.) The bases for 1979-81 were specified by the 1977 amendments at levels above those which were expected to occur under the automatic-adjustment provisions (and which, in fact, as the experience developed, were above such levels). Starting again in 1982, the bases have been determined automatically on the basis of increases in average wages. The bases for years after 1989 are slightly higher than they otherwise would have been through the effects of a new procedure to determine the base, as required by Public Law 101-239. Table D3 shows actual past and projected future amounts for the contribution and benefit base.

The law provides for the determination of the contribution and benefit bases that would have been in effect in each year after 1978 under the automatic-adjustment provisions as in effect before the enactment of the 1977 amendments. (For years after 1989, the "old-law" bases were modified in the same way as the current-law bases, as described above.) This old-law base is used in determining special-minimum benefits for certain workers who have many years of low earnings in covered employment. Beginning in 1986, the old-law base is also used in the calculation of OASDI benefits for certain workers who are eligible to receive pensions based on noncovered employment. In addition, it is used for certain purposes under the Railroad Retirement program and the Employee Retirement Income Security Act of 1974. Table D3 shows the old-law bases for 1979-91, together with estimated amounts for 1992-2000 on the basis of the intermediate set of assumptions.

The 1972 amendments specified that the amount of earnings exempted from the withholding of benefits under the retirement earnings test would increase automatically in the year following a year in which an automatic cost-of-living benefit increase became effective. The 1977 amendments modified this procedure by establishing two different exempt amounts—one for those under age 65 and another for those aged 65 and over. The former amounts continued to increase automatically, while the latter amounts were specified for 1978-82, after which they again increase automatically. The exempt amounts are shown in table D3 for 1975-2000.

The 1977 amendments specified the amount of earnings required in 1978 to be credited with a "quarter of coverage" and provided for automatic adjustment of this amount for future years. Table D3 shows the amounts for 1978-2000.

The 1977 amendments substantially revised the method of computing benefits for most workers first becoming eligible for benefits in 1979 and later. The formula used to compute the Primary Insurance Amount (PIA) for workers who first became eligible for benefits, or who died before becoming eligible, in 1979 is:

90 percent of the first $180 of AIME, plus
32 percent of AIME in excess of $180
but not in excess of $1,085, plus
15 percent of AIME in excess of $1,085.

The amounts separating the individual's AIME into intervals—the "bend points"—are adjusted automatically by the changes in average wages as specified in section 215(a)(1)(B) of the Social Security Act. (A regular-minimum benefit of $122 and a special-minimum benefit varying by "years of coverage" are also provided, although for most workers first becoming eligible for benefits in 1982 and later, the regular-minimum benefit of $122 has been eliminated.) The bend points for 1979-91, and the values projected for 1992-2000, are shown in table D3.

A similar formula is used to compute the maximum total amount of monthly benefits payable on the basis of the earnings of a retired or deceased individual. This formula is a function of the individual's PIA, and is shown below for workers who first became eligible for benefits, or who died before becoming eligible, in 1979:

150 percent of the first $230 of PIA, plus
272 percent of the PIA in excess of $230
but not in excess of $332, plus
134 percent of the PIA in excess of $332
but not in excess of $433, plus
175 percent of the PIA in excess of $433.

These PIA-interval bend points are adjusted automatically in accordance with section 203(a)(2) of the Act. The maximum-family-benefit bend points for 1979-2000 are shown in table D3.

TABLE D3.—OASDI PROGRAM AMOUNTS DETERMINED UNDER THE AUTOMATIC-ADJUSTMENT PROVISIONS, CALENDAR YEARS 1975-91, AND PROJECTED FUTURE AMOUNTS, CALENDAR YEARS 1992-2000, ON THE BASIS OF THE INTERMEDIATE SET OF ASSUMPTIONS

Calendar year	Benefit increase[1] (percent)	Contribution and benefit base[2]	"Old law" contribution and benefit base[3]	Retirement earnings test exempt amount		Amount of earnings required for quarter of coverage[5]	AIME "bend points" in PIA formula		PIA "bend points" in maximum-family-benefit formula		
				Under age 65	Ages 65 and over[4]		First	Second	First	Second	Third
Actual experience:											
1975	8.0	$14,100	([6])	$2,520	$2,520	([7])	([6])	([6])	([6])	([6])	([6])
1976	6.4	15,300	([6])	2,760	2,760	([7])	([6])	([6])	([6])	([6])	([6])
1977	5.9	16,500	([6])	3,000	3,000	([7])	([6])	([6])	([6])	([6])	([6])
1978	6.5	17,700	([6])	3,240	[8]4,000	[8]$250	([6])	([6])	([6])	([6])	([6])
1979	9.9	[9]22,900	$18,900	3,480	[8]4,500	260	[9]$180	[9]$1,085	[9]$230	[9]$332	[9]$433
1980	14.3	[9]25,900	20,400	3,720	[8]5,000	290	194	1,171	248	358	467
1981	11.2	[9]29,700	22,200	4,080	[8]5,500	310	211	1,274	270	390	508
1982	7.4	32,400	24,300	4,440	[8]6,000	340	230	1,388	294	425	554
1983	3.5	35,700	26,700	4,920	6,600	370	254	1,528	324	468	610
1984	3.5	37,800	28,200	5,160	6,960	390	267	1,612	342	493	643
1985	3.1	39,600	29,700	5,400	7,320	410	280	1,691	358	517	675
1986	1.3	42,000	31,500	5,760	7,800	440	297	1,790	379	548	714
1987	4.2	43,800	32,700	6,000	8,160	460	310	1,866	396	571	745
1988	4.0	45,000	33,600	6,120	8,400	470	319	1,922	407	588	767
1989	4.7	48,000	35,700	6,480	8,880	500	339	2,044	433	626	816
1990	5.4	51,300	38,100	6,840	9,360	520	356	2,145	455	656	856
1991	[10]4.8	53,400	39,600	7,080	9,720	540	370	2,230	473	682	890
Estimated future experience:											
1992	4.0	55,800	41,400	7,440	10,200	570	387	2,333	494	714	931
1993	4.0	57,900	42,900	7,680	10,560	590	401	2,417	512	739	964
1994	4.0	60,900	45,300	8,040	11,160	620	422	2,544	539	778	1,015
1995	4.0	64,200	47,700	8,520	11,760	650	444	2,679	568	820	1,069
1996	4.0	67,500	50,100	9,000	12,360	690	467	2,816	597	862	1,124
1997	4.0	71,100	52,800	9,480	12,960	720	492	2,966	629	908	1,184
1998	4.0	74,700	55,500	9,960	13,680	760	518	3,122	662	955	1,246
1999	4.0	78,600	58,500	10,440	14,400	800	545	3,286	696	1,005	1,311
2000	4.0	82,800	61,500	11,040	15,120	840	573	3,456	733	1,057	1,379

[1]Effective with benefits payable for June in each year 1975-82, and for December in each year after 1982.

[2]The bases for years after 1989 were increased slightly through the effect of a new procedure to determine the base, as required by Public Law 101-239.

[3]Contribution and benefit base that would have been determined automatically under the law in effect prior to enactment of the Social Security Amendments of 1977. The bases for years after 1989 were increased slightly through the effect of a new procedure to determine the base, as required by Public Law 101-239.

[4]In 1955-82, retirement earnings test did not apply at ages 72 and over; beginning in 1983, it does not apply at ages 70 and over.

[5]See Appendix C for a description of quarter-of-coverage requirements prior to 1978.

[6]No provision in law for this amount in this year.

[7]Amount not subject to automatic-adjustment provisions in this year.

[8]Amount specified by Social Security Amendments of 1977.

[9]Amount specified for first year by Social Security Amendments of 1977; amounts for subsequent years subject to automatic-adjustment provisions.

[10]Estimated.

APPENDIX E.—ACTUARIAL ESTIMATES FOR THE OASDI AND HI PROGRAMS, COMBINED

In this appendix, long-range actuarial estimates for the OASDI and Hospital Insurance (HI) programs are combined to facilitate analysis of th e adequacy of the combined income and assets of the trust funds relative to their combined expenditures. Long-range estimates are subject to much uncertainty and should not be considered precise forecasts. Instead they should be considered as indicative of the general trend and range of costs that could reasonably be expected to occur. The emphasis in this appendix on combined operations should not obscure the financial status of the individual trust funds.

As with the OASI and DI Trust Funds, income to the HI Trust Fund comes primarily from contributions paid by employees, employers, and self-employed persons. The combined OASDI and HI contribution rate for employees and their employers is often referred to as the FICA tax, because it is authorized by the Federal Insurance Contributions Act. Contribution rates for the OASDI and HI programs are shown in table E1.

TABLE E1.— CONTRIBUTION RATES FOR THE OASDI AND HI PROGRAMS
[In percent]

Calendar years	Employees and employers, each			Self-employed		
	OASDI	HI	Total	OASDI	HI	Total
1966	3.85	0.35	4.20	5.80	0.35	6.15
1967	3.90	.50	4.40	5.90	.50	6.40
1968	3.80	.60	4.40	5.80	.60	6.40
1969-70	4.20	.60	4.80	6.30	.60	6.90
1971-72	4.60	.60	5.20	6.90	.60	7.50
1973	4.85	1.00	5.85	7.00	1.00	8.00
1974-77	4.95	.90	5.85	7.00	.90	7.90
1978	5.05	1.00	6.05	7.10	1.00	8.10
1979-80	5.08	1.05	6.13	7.05	1.05	8.10
1981	5.35	1.30	6.65	8.00	1.30	9.30
1982-83	5.40	1.30	6.70	8.05	1.30	9.35
1984[1]	5.70	1.30	7.00	11.40	2.60	14.00
1985[1]	5.70	1.35	7.05	11.40	2.70	14.10
1986-87[1]	5.70	1.45	7.15	11.40	2.90	14.30
1988-89[1]	6.06	1.45	7.51	12.12	2.90	15.02
1990 and later	6.20	1.45	7.65	12.40	2.90	15.30

[1]See section entitled "Basis for Trust Fund Receipts and Expenditures" for description of tax credits allowed against the combined OASDI and HI taxes on net earnings from self-employment in 1984-89.

Table E2 shows estimated annual income rates and cost rates for the OASDI program, the HI program, and the combined OASDI and HI programs, based on the sets of assumptions, alternatives I, II, and III, described earlier in this report. Income rates exclude interest earned on trust fund assets. Cost rates shown for HI exclude the cost of maintaining the trust fund at a level suitable for a contingency reserve. Table E2 also shows the excess of income rates over cost rates, called balances. Estimates shown for the combined trust funds are theoretical because no authority currently exists for transferring assets from one trust fund to another.

Under all three sets of assumptions, combined OASDI and HI cost rates are projected to rise above current levels, with the sharpest increase occurring during the period 2010-2030. Under the more pessimistic set of assumptions, alternative III, annual deficits are projected to occur before the turn of the century, and to continue throughout the 75-year projection period. Cost rates are projected to rise to over three times their current level by the end of the projection period. Under the intermediate assumptions, annual deficits begin to occur shortly after the turn of the century, with cost rates nearly doubling by the end of the projection period. Under the more optimistic assumptions, alternative I, cost rates are

projected to increase by about one-quarter, with annual deficits beginning roughly halfway through the projection period.

TABLE E2.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES[1] FOR OASDI AND HI BY ALTERNATIVE, CALENDAR YEARS 1991-2065
[As a percentage of taxable payroll[2]]

Calendar year	OASDI			HI			Total		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
1991	12.61	11.03	1.59	2.90	2.59	0.31	15.51	13.62	1.89
1992	12.62	11.01	1.61	2.90	2.62	.28	15.52	13.63	1.89
1993	12.62	10.80	1.82	2.90	2.64	.26	15.52	13.45	2.07
1994	12.62	10.63	2.00	2.90	2.71	.19	15.52	13.33	2.19
1995	12.57	10.43	2.14	2.90	2.77	.13	15.47	13.19	2.28
1996	12.62	10.25	2.37	2.90	2.82	.08	15.52	13.07	2.46
1997	12.62	10.08	2.54	2.90	2.86	.03	15.52	12.95	2.58
1998	12.63	9.94	2.69	2.90	2.91	−.01	15.53	12.85	2.68
1999	12.63	9.81	2.82	2.90	2.96	−.06	15.53	12.77	2.77
2000	12.64	9.69	2.94	2.90	2.99	−.09	15.54	12.69	2.85
2005	12.70	9.47	3.23	2.90	3.12	−.22	15.60	12.59	3.01
2010	12.76	9.77	3.00	2.90	3.28	−.39	15.66	13.05	2.61
2015	12.82	10.64	2.18	2.90	3.60	−.70	15.72	14.24	1.48
2020	12.89	11.83	1.06	2.90	3.73	−.83	15.79	15.56	.23
2025	12.94	12.81	.13	2.90	3.96	−1.06	15.84	16.78	−.93
2030	12.98	13.27	−.29	2.90	4.17	−1.28	15.88	17.44	−1.57
2035	12.98	13.19	−.20	2.90	4.30	−1.40	15.88	17.49	−1.60
2040	12.97	12.78	.19	2.90	4.37	−1.47	15.87	17.15	−1.28
2045	12.96	12.44	.52	2.90	4.42	−1.52	15.86	16.86	−1.00
2050	12.96	12.28	.67	2.90	4.46	−1.56	15.86	16.75	−.89
2055	12.96	12.29	.67	2.90	4.54	−1.64	15.86	16.83	−.97
2060	12.96	12.32	.65	2.90	4.66	−1.76	15.86	16.98	−1.11
2065	12.96	12.29	.68	2.90	4.78	−1.88	15.86	17.07	−1.20
Alternative II:									
1991	12.61	11.10	1.51	2.90	2.61	.28	15.51	13.72	1.80
1992	12.62	11.18	1.44	2.90	2.68	.22	15.52	13.87	1.65
1993	12.63	11.14	1.48	2.90	2.76	.14	15.53	13.90	1.62
1994	12.63	11.10	1.53	2.90	2.87	.03	15.53	13.97	1.56
1995	12.63	11.04	1.59	2.90	2.99	−.09	15.53	14.02	1.51
1996	12.64	10.99	1.65	2.90	3.09	−.20	15.54	14.08	1.45
1997	12.64	10.94	1.69	2.90	3.20	−.30	15.54	14.15	1.39
1998	12.65	10.92	1.73	2.90	3.31	−.41	15.55	14.22	1.32
1999	12.66	10.90	1.76	2.90	3.41	−.51	15.56	14.31	1.24
2000	12.66	10.88	1.79	2.90	3.52	−.62	15.56	14.40	1.17
2005	12.74	10.90	1.85	2.90	3.98	−1.08	15.64	14.88	.76
2010	12.82	11.31	1.51	2.90	4.56	−1.66	15.72	15.87	−.14
2015	12.89	12.42	.47	2.90	5.45	−2.55	15.79	17.87	−2.08
2020	12.98	13.96	−.98	2.90	6.20	−3.30	15.88	20.16	−4.28
2025	13.06	15.38	−2.32	2.90	7.08	−4.18	15.96	22.46	−6.51
2030	13.11	16.31	−3.19	2.90	7.84	−4.94	16.01	24.14	−8.13
2035	13.14	16.65	−3.50	2.90	8.31	−5.42	16.04	24.96	−8.92
2040	13.15	16.58	−3.43	2.90	8.55	−5.65	16.05	25.12	−9.08
2045	13.15	16.54	−3.40	2.90	8.63	−5.73	16.05	25.18	−9.13
2050	13.16	16.72	−3.56	2.90	8.72	−5.82	16.06	25.44	−9.38
2055	13.18	17.10	−3.92	2.90	8.85	−5.95	16.08	25.95	−9.87
2060	13.20	17.48	−4.28	2.90	9.07	−6.17	16.10	26.55	−10.45
2065	13.22	17.74	−4.52	2.90	9.30	−6.40	16.12	27.04	−10.92
Alternative III:									
1991	12.62	11.28	1.34	2.90	2.65	.25	15.52	13.93	1.58
1992	12.63	11.71	.93	2.90	2.79	.11	15.53	14.49	1.04
1993	12.64	11.71	.93	2.90	2.90	.00	15.54	14.61	.93
1994	12.65	11.89	.75	2.90	3.06	−.16	15.55	14.95	.60
1995	12.66	12.31	.35	2.90	3.27	−.37	15.56	15.58	−.02
1996	12.66	12.22	.45	2.90	3.43	−.53	15.56	15.64	−.08
1997	12.67	12.18	.48	2.90	3.60	−.70	15.57	15.78	−.22
1998	12.67	12.19	.49	2.90	3.78	−.88	15.57	15.97	−.39
1999	12.69	12.25	.44	2.90	3.97	−1.07	15.59	16.22	−.64
2000	12.70	12.33	.37	2.90	4.16	−1.26	15.60	16.49	−.89

TABLE E2.—COMPARISON OF ESTIMATED INCOME RATES AND COST RATES[1] FOR OASDI AND HI BY ALTERNATIVE, CALENDAR YEARS 1991-2065 (Cont.)
[As a percentage of taxable payroll[2]]

Calendar year	OASDI			HI			Total		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative III: (Cont.)									
2005	12.80	12.48	0.32	2.90	5.14	–2.24	15.70	17.62	–1.93
2010	12.89	12.94	–.05	2.90	6.43	–3.53	15.79	19.37	–3.58
2015	12.97	14.25	–1.27	2.90	8.43	–5.54	15.87	22.68	–6.81
2020	13.07	16.10	–3.03	2.90	10.50	–7.60	15.97	26.60	–10.63
2025	13.17	18.00	–4.82	2.90	12.86	–9.96	16.07	30.86	–14.78
2030	13.26	19.51	–6.25	2.90	14.95	–12.05	16.16	34.46	–18.31
2035	13.32	20.51	–7.19	2.90	16.36	–13.46	16.22	36.87	–20.66
2040	13.35	21.11	–7.76	2.90	16.93	–14.03	16.25	38.04	–21.79
2045	13.39	21.78	–8.39	2.90	17.12	–14.22	16.29	38.89	–22.61
2050	13.43	22.71	–9.28	2.90	17.29	–14.39	16.33	40.00	–23.67
2055	13.49	23.93	–10.44	2.90	17.60	–14.70	16.39	41.53	–25.14
2060	13.56	25.13	–11.58	2.90	18.04	–15.15	16.46	43.18	–26.72
2065	13.60	26.10	–12.50	2.90	18.50	–15.60	16.50	44.60	–28.10

[1]Cost rates for HI exclude amounts required for trust fund maintenance.

[2]The taxable payroll for HI is somewhat larger than the taxable payroll for OASDI because the HI taxable maximum amount is significantly higher than the taxable maximum for OASDI beginning 1991, and because HI covers all Federal civilian employees, including those hired before 1984, all State and local government employees hired after April 1, 1986, and railroad employees.

Note: Totals do not necessarily equal the sums of rounded components.

Table E3 shows the estimates of summarized OASDI and HI income rates, cost rates and balances for various time periods, based on all three sets of assumptions. Values are summarized over the three 25-year subperiods (excluding the beginning fund balances and the cost of ending fund targets) as well as 25-year, 50-year, and 75-year valuation periods (for which beginning fund balances are included in the summarized income rates, and the costs of reaching and maintaining an ending fund balance equal to 100 percent of annual expenditures by the end of the period are included in the summarized cost rates). Summarized income rates exclude interest earned on trust fund assets. Estimates shown for the combined trust funds are theoretical because no authority currently exists for transferring assets from one trust fund to another.

Under alternative III, the combined OASDI and HI system is projected to show deficits during the 25, 50, and 75-year valuation periods (including beginning trust fund balances and the cost of ending fund targets). Deficits are projected to occur during each 25-year subperiod of the 75-year projection (excluding beginning trust fund balances and the cost of ending fund targets). Under intermediate alternative II assumptions, positive balances are projected to occur for both the first 25-year subperiod and the 25-year valuation period. Deficits are projected for the 50 and 75-year valuation periods and for the last two 25-year subperiods. Under alternative I, the combined OASDI and HI system is projected to show positive balances for the 25, 50, and 75-year valuation periods and for the first 25-year subperiod. Small deficits are projected for the second and third 25-year subperiods.

TABLE E3.—COMPARISON OF SUMMARIZED INCOME RATES AND COST RATES[1] FOR OASDI AND HI BY ALTERNATIVE, CALENDAR YEARS 1991-2065

[As a percentage of taxable payroll[1]]

Calendar year	OASDI			HI			Total		
	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance	Income rate	Cost rate	Balance
Alternative I:									
25-year subperiods:[2]									
1991-2015	12.66	10.06	2.60	2.90	3.05	–0.15	15.57	13.11	2.45
2016-2040	12.92	12.62	.30	2.90	4.03	–1.13	15.83	16.65	–.83
2041-2065	12.94	12.39	.55	2.90	4.53	–1.63	15.85	16.92	–1.08
Valuation periods:[3]									
25 years: 1991-2015	13.09	10.46	2.62	3.08	3.18	–.10	16.17	13.65	2.52
50 years: 1991-2040	13.01	11.42	1.60	3.00	3.56	–.56	16.02	14.98	1.04
75 years: 1991-2065	13.00	11.65	1.34	2.98	3.82	–.84	15.97	15.47	.50
Alternative II:									
25-year subperiods:[2]									
1991-2015	12.69	11.20	1.49	2.90	3.80	–.89	15.60	15.00	.60
2016-2040	13.04	15.41	–2.37	2.90	7.28	–4.38	15.94	22.69	–6.74
2041-2065	13.15	17.03	–3.88	2.90	8.84	–5.93	16.06	25.86	–9.81
Valuation periods:[3]									
25 years: 1991-2015	13.14	11.67	1.47	3.09	4.00	–.91	16.23	15.67	.56
50 years: 1991-2040	13.10	13.30	–.21	3.01	5.45	–2.44	16.11	18.75	–2.65
75 years: 1991-2065	13.11	14.19	–1.08	2.98	6.27	–3.29	16.09	20.47	–4.37
Alternative III:									
25-year subperiods:[2]									
1991-2015	12.73	12.55	.19	2.91	4.86	–1.95	15.64	17.40	–1.77
2016-2040	13.17	18.40	–5.23	2.90	13.46	–10.56	16.07	31.86	–15.79
2041-2065	13.44	23.43	–9.99	2.90	17.53	–14.63	16.35	40.97	–24.62
Valuation periods:[3]									
25 years: 1991-2015	13.20	13.09	.11	3.10	5.18	–2.08	16.30	18.27	–1.96
50 years: 1991-2040	13.19	15.46	–2.27	3.01	8.89	–5.88	16.20	24.35	–8.15
75 years: 1991-2065	13.25	17.37	–4.12	2.99	10.95	–7.96	16.24	28.32	–12.08

[1]The taxable payroll for HI is considerably larger than the taxable payroll for OASDI because the HI taxable maximun amount is significantly higher than the taxable maximum for OASDI beginning 1991, and because HI covers all Federal civilian employees, including those hired before 1984, all State and local government employees hired after April 1, 1986, and railroad employees.

[2]Income rates do not include beginning trust fund balances and cost rates do not include the cost of reaching ending fund targets.

[3]Income rates include beginning trust fund balances and cost rates include an ending fund target equal to 100 percent of annual expenditures by the end of the period.

Note: Totals do not necessarily equal the sums of rounded components.

APPENDIX F.—LONG-RANGE ESTIMATES OF SOCIAL SECURITY TRUST FUND OPERATIONS IN DOLLARS

This appendix presents long-range projections of the operations of the combined OASI and DI Trust Funds and in some cases the HI Trust Fund. It provides the means to track the progress of the funds during the projection period, as well as the potential budgetary impact of the funds' operations. Several economic series, or "indices," are provided to allow current dollars to be adjusted for variations caused by changes in prices, wages, and certain other aspects of economic growth during the projection period.

The selection of a particular index for adjustment reflects the analyst's decision of which aspect of the economy to use as a standard. Table F1 presents five such indices for adjustment, which consider the problem of standardization from different points of view.

One of the most common forms of standardization is based on some measure of change in the prices of consumer goods. One such price index is the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W, hereafter referred to as "CPI"), which is published by the Bureau of Labor Statistics, Department of Labor. This is the index used to determine annual increases in OASDI monthly benefits payable after the year of initial eligibility. The CPI is assumed to increase ultimately at annual rates of 3.0, 4.0, and 5.0 percent for alternatives I, II, and III, respectively. Constant-dollar values (adjusted by the CPI) are provided in table F2.

Another type of standardization combines the effects of price inflation with real-wage growth. The wage index presented here is the "SSA average wage index," as defined in section 215(i)(1)(G) of the Social Security Act. This index is used to make annual adjustments to many earnings-related quantities embodied in the Social Security Act, such as the contribution and benefit base. The average annual wage is assumed to increase ultimately by 4.7, 5.1, and 5.6 percent under alternatives I, II, and III, respectively.

The payroll index adjusts for the effect of changes in the number of workers as well as for the effects of price inflation and real-wage growth. The OASDI taxable payroll consists of all earnings subject to OASDI taxation, adjusted for the lower effective tax rate on multiple-employer "excess wages," and including deemed wage credits for military service. The gross national product (GNP) index adjusts for the same effects as the taxable payroll index, plus the effect of other changes in the national economy. No explicit assumptions are made about growth in taxable payroll or GNP. These series are computed reflecting the other more basic economic and demographic assumptions, as discussed in Appendix A.

Discounting with interest is another way of adjusting current dollars. The series of interest-rate factors included here is based on the average of the assumed annual interest rates for special public-debt obligations issuable to the trust funds. Ultimate nominal interest rates compounded semiannually, are assumed to be approximately 6.0, 6.3, and 6.5 percent for alternatives I, II, and III, respectively.

TABLE F1.—SELECTED ECONOMIC VARIABLES BY ALTERNATIVE, CALENDAR YEARS 1991-2065
[GNP and taxable payroll in billions]

Calendar year	Adjusted CPI[1]	SSA average wage index[2]	Taxable payroll[3]	Gross national product	Compound interest-rate factor[4]
Alternative I:					
1991	100.00	$21,832	$2,473	$5,665	1.0000
1992	102.84	22,867	2,628	6,030	1.0745
1993	106.05	24,010	2,800	6,431	1.1461
1994	109.24	25,181	2,981	6,838	1.2172
1995	112.52	26,439	3,173	7,258	1.2929
1996	115.90	27,742	3,370	7,700	1.3733
1997	119.38	29,111	3,579	8,164	1.4587
1998	122.96	30,525	3,797	8,648	1.5494
1999	126.65	32,032	4,027	9,156	1.6457
2000	130.45	33,624	4,271	9,695	1.7481
2005	151.23	42,303	5,619	12,766	2.3492
2010	175.32	53,224	7,302	16,640	3.1572
2015	203.24	66,964	9,407	21,514	4.2430
2020	235.62	84,251	12,036	27,659	5.7022
2025	273.14	106,001	15,400	35,561	7.6633
2030	316.65	133,365	19,820	45,987	10.2989
2035	367.08	167,794	25,671	59,851	13.8408
2040	425.55	211,110	33,274	77,948	18.6009
2045	493.33	265,609	43,077	101,398	24.9980
2050	571.90	334,177	55,727	131,801	33.5953
2055	662.99	420,446	72,128	171,410	45.1492
2060	768.59	528,986	93,446	223,134	60.6768
2065	891.00	665,545	121,106	290,565	81.5445
Alternative II:					
1991	100.00	21,781	2,462	5,650	1.0000
1992	103.95	22,926	2,614	6,045	1.0778
1993	108.11	24,143	2,782	6,448	1.1566
1994	112.43	25,385	2,956	6,854	1.2359
1995	116.92	26,738	3,142	7,284	1.3208
1996	121.62	28,141	3,336	7,743	1.4106
1997	126.49	29,614	3,540	8,228	1.5056
1998	131.54	31,148	3,755	8,741	1.6057
1999	136.81	32,765	3,984	9,286	1.7117
2000	142.27	34,464	4,228	9,865	1.8235
2005	173.10	44,195	5,607	13,155	2.4857
2010	210.60	56,675	7,413	17,528	3.3885
2015	256.23	72,678	9,666	23,046	4.6190
2020	311.74	93,201	12,467	30,010	6.2964
2025	379.28	119,518	16,023	38,940	8.5829
2030	461.45	153,267	20,651	50,669	11.6999
2035	561.43	196,545	26,722	66,191	15.9487
2040	683.06	252,043	34,569	86,449	21.7406
2045	831.05	323,213	44,591	112,578	29.6357
2050	1,011.10	414,479	57,347	146,170	40.3980
2055	1,230.15	531,516	73,676	189,587	55.0687
2060	1,496.67	681,601	94,698	246,009	75.0672
2065	1,820.93	874,066	121,828	319,513	102.3281
Alternative III:					
1991	100.00	21,472	2,429	5,542	1.0000
1992	105.62	22,743	2,546	5,908	1.0865
1993	112.38	24,388	2,743	6,441	1.1830
1994	119.34	25,844	2,930	6,858	1.2869
1995	125.07	26,904	3,055	7,131	1.3944
1996	131.35	28,680	3,283	7,734	1.5020
1997	137.90	30,400	3,519	8,314	1.6095
1998	144.80	32,129	3,762	8,880	1.7232
1999	152.04	33,951	4,007	9,473	1.8424
2000	159.64	35,860	4,262	10,106	1.9673

TABLE F1.—SELECTED ECONOMIC VARIABLES BY ALTERNATIVE, CALENDAR YEARS 1991-2065 (Cont.)
[GNP and taxable payroll in billions]

Calendar year	Adjusted CPI[1]	SSA average wage index[2]	Taxable payroll[3]	Gross national product	Compound interest-rate factor[4]
Alternative III: (Cont.)					
2005	203.75	$47,089	$5,732	$13,750	2.7049
2010	260.04	61,836	7,736	18,789	3.7190
2015	331.88	81,201	10,269	25,267	5.1134
2020	423.57	106,631	13,444	33,555	7.0305
2025	540.60	140,024	17,467	44,222	9.6663
2030	689.96	183,875	22,693	58,277	13.2904
2035	880.58	241,459	29,501	76,849	18.2732
2040	1,123.86	317,076	38,266	101,111	25.1241
2045	1,434.37	416,373	49,371	132,325	34.5436
2050	1,830.66	546,767	63,348	172,224	47.4946
2055	2,336.43	717,996	81,029	223,451	65.3011
2060	2,981.95	942,848	103,558	289,674	89.7836
2065	3,805.80	1,238,117	132,508	375,965	123.4451

[1]The CPI used to adjust OASDI benefits is the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI), as defined by the Bureau of Labor Statistics, Department of Labor. The values shown are adjusted by dividing the calendar-year annual average CPI by the analogous value for 1991, and multiplying the result by 100, thereby initializing the CPI at 100 for 1991.

[2]The "SSA average wage index" is defined in section 215(i)(1)(G) of the Social Security Act; it is used in the calculations of initial benefits and the automatic adjustment of the contribution and benefit base and other wage-indexed program amounts.

[3]Taxable payroll consists of total earnings subject to OASDI contribution rates, adjusted to include deemed wages based on military service and to reflect the lower effective contribution rates (compared to the combined employee-employer rate) which apply to multiple-employer "excess wages."

[4]The compound interest-rate factor is based on the average of the assumed annual interest rates for special public-debt obligations issuable to the trust funds in the 12 months of the year, under each alternative.

Table F2 shows estimated operations of the combined OASI and DI Trust Funds in constant 1991 dollars adjusted by the CPI indexing series discussed above. Items included in the table are: income excluding interest, interest income, total income, total outgo, and assets at the end of the year. Income excluding interest consists of payroll-tax contributions, income from taxation of benefits, and miscellaneous reimbursements from the general fund of the Treasury. Outgo consists of benefit payments, administrative expenses, net transfers from the OASI and DI Trust Funds to the Railroad Retirement program under the financial-interchange provisions, and payments for vocational rehabilitation services for disabled beneficiaries. These estimates are based on the three sets of assumptions I, II, and III described earlier in this report.

Figure F1 provides a comparison of annual total income including interest with annual income excluding interest, for the OASDI program under alternative II assumptions. Both values are expressed in constant dollars, as shown in table F2. The difference between the values for each year is equal to the trust fund interest earnings. Thus the figure illustrates the amounts of total program income that are attributable to the trust fund interest and to other sources.

TABLE F2.—ESTIMATED OPERATIONS OF THE COMBINED OASI AND DI TRUST FUNDS IN CONSTANT 1991 DOLLARS[1] BY ALTERNATIVE, CALENDAR YEARS 1991-2065

[In billions]

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Alternative I:					
1991	$309.5	$22.0	$331.5	$272.8	$283.9
1992	321.2	25.5	346.7	281.4	341.4
1993	331.1	29.0	360.1	285.3	405.8
1994	343.7	32.6	376.3	290.1	480.2
1995	353.1	36.7	389.8	294.1	561.9
1996	366.2	41.3	407.4	298.1	654.9
1997	377.2	46.5	423.7	302.3	757.2
1998	388.8	52.3	441.1	306.9	869.3
1999	400.3	58.7	459.0	312.0	991.0
2000	412.5	65.6	478.1	317.4	1,122.8
2005	470.3	106.1	576.5	351.8	1,911.1
2010	530.0	162.2	692.3	406.8	2,891.8
2015	591.6	224.2	815.9	492.4	3,961.9
2020	656.5	284.2	940.7	604.3	4,986.5
2025	727.8	338.3	1,066.1	722.4	5,907.9
2030	810.1	388.7	1,198.8	830.6	6,776.3
2035	905.5	443.6	1,349.0	922.3	7,735.2
2040	1,011.5	512.8	1,524.3	999.4	8,957.1
2045	1,128.5	603.0	1,731.5	1,086.2	10,543.8
2050	1,259.0	715.7	1,974.7	1,196.9	12,518.8
2055	1,405.9	850.4	2,256.4	1,337.0	14,871.5
2060	1,571.7	1,008.2	2,579.9	1,497.5	17,625.0
2065	1,757.1	1,193.8	2,950.9	1,670.3	20,866.6
Alternative II:					
1991	308.2	21.9	330.1	273.4	281.9
1992	316.2	25.1	341.2	281.3	331.2
1993	322.9	28.2	351.1	286.8	382.7
1994	331.3	31.3	362.6	291.8	438.8
1995	338.0	34.6	372.5	296.6	497.8
1996	345.7	38.1	383.7	301.4	560.9
1997	352.6	41.7	394.3	306.4	627.3
1998	359.9	45.5	405.3	311.7	696.8
1999	367.2	49.3	416.5	317.4	769.1
2000	375.0	53.4	428.4	323.3	844.6
2005	411.4	73.6	485.0	353.0	1,259.1
2010	449.9	101.2	551.1	398.2	1,715.3
2015	484.8	125.1	609.9	468.7	2,098.3
2020	517.4	136.3	653.7	558.3	2,258.3
2025	549.9	129.2	679.1	649.8	2,114.5
2030	585.1	103.8	688.8	729.8	1,671.3
2035	623.5	64.0	687.5	792.3	998.3
2040	663.2	14.6	677.8	839.0	174.8
2045	[2]	[2]	[2]	[2]	[2]
Alternative III:					
1991	304.3	21.9	326.2	274.1	277.4
1992	303.4	24.4	327.8	282.3	308.2
1993	306.2	26.7	332.9	285.9	336.6
1994	309.8	29.1	338.9	292.1	363.7
1995	307.9	30.9	338.8	300.8	385.1
1996	315.1	32.1	347.2	305.4	408.5
1997	322.1	33.2	355.2	310.9	433.4
1998	328.0	34.2	362.3	316.7	458.3
1999	332.9	35.2	368.1	322.8	481.8
2000	337.6	36.0	373.6	329.2	503.2
2005	358.6	36.0	394.6	351.1	593.7
2010	382.1	40.1	422.2	385.0	654.7
2015	399.9	36.4	436.3	440.8	577.7
2020	413.5	16.3	429.8	511.0	226.4
2025	[2]	[2]	[2]	[2]	[2]

[1]The adjustment from current to constant dollars is by the CPI indexing series shown in table F1.

[2]The combined OASI and DI Trust Funds are estimated to become exhausted in 2041 under alternative II and in 2022 under alternative III.

FIGURE F1.—ESTIMATED OASDI INCOME IN CONSTANT 1991 DOLLARS, BASED ON ALTERNATIVE II, CALENDAR YEARS 1991-2041

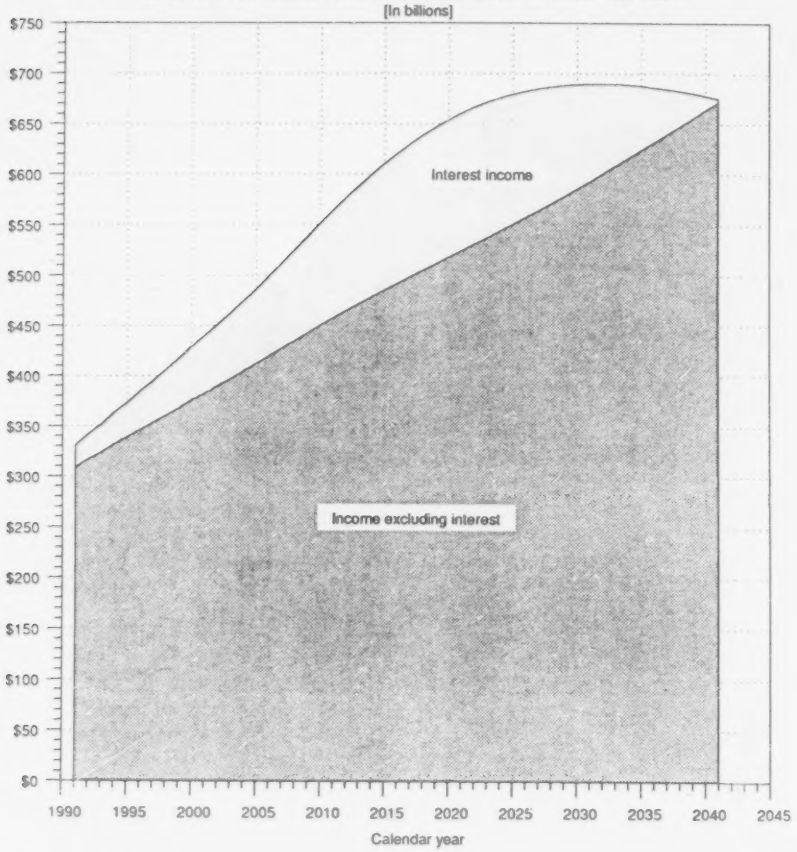

Table F3 shows estimated operations of the combined OASI and DI Trust Funds in current dollars—that is in dollars unadjusted for inflation. Items included in the table are: income excluding interest, interest income, total income, total outgo, and assets at the end of the year. These estimates, based on the three sets of economic and demographic assumptions I, II, and III described earlier in this report, are presented to facilitate independent analysis.

TABLE F3.—ESTIMATED OPERATIONS OF THE COMBINED OASI AND DI TRUST FUNDS IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1991-2065
(In billions)

Calendar year	Income excluding interest	Interest income	Total income	Outgo	Assets at end of year
Alternative I:					
1991	$309.5	$22.0	$331.5	$272.8	$283.9
1992	330.3	26.2	356.5	289.4	351.0
1993	351.2	30.7	381.9	302.6	430.4
1994	375.4	35.6	411.0	316.9	524.5
1995	397.3	41.3	438.6	330.9	632.3
1996	424.4	47.8	472.2	345.5	759.0
1997	450.3	55.5	505.8	360.9	904.0
1998	478.0	64.3	542.3	377.4	1,068.9
1999	507.0	74.3	581.3	395.1	1,255.1
2000	538.1	85.6	623.7	414.1	1,464.7
2005	711.3	160.5	871.8	532.0	2,890.2
2010	929.2	284.4	1,213.7	713.2	5,070.0
2015	1,202.5	455.7	1,658.2	1,000.7	8,052.3
2020	1,546.8	669.7	2,216.4	1,423.9	11,749.0
2025	1,988.0	923.9	2,912.0	1,973.3	16,137.0
2030	2,565.0	1,230.8	3,795.8	2,630.0	21,456.8
2035	3,323.9	1,628.2	4,952.1	3,385.7	28,394.6
2040	4,304.3	2,182.4	6,486.7	4,253.0	38,116.7
2045	5,567.3	2,974.8	8,542.1	5,358.4	52,015.3
2050	7,199.9	4,093.2	11,293.2	6,844.8	71,595.1
2055	9,321.1	5,638.4	14,959.4	8,864.1	98,596.1
2060	12,079.6	7,748.9	19,828.6	11,509.2	135,463.4
2065	15,655.8	10,636.5	26,292.2	14,882.1	185,921.4
Alternative II:					
1991	308.2	21.9	330.1	273.4	281.9
1992	328.7	26.1	354.7	292.4	344.2
1993	349.1	30.5	379.6	310.1	413.8
1994	372.4	35.2	407.7	328.1	493.3
1995	395.2	40.4	435.6	346.8	582.1
1996	420.4	46.3	466.7	366.6	682.2
1997	446.0	52.8	498.8	387.5	793.4
1998	473.4	59.8	533.2	410.0	916.6
1999	502.3	67.5	569.8	434.2	1,052.2
2000	533.6	75.9	609.5	460.0	1,201.7
2005	712.0	127.4	839.5	611.0	2,179.5
2010	947.5	213.0	1,160.5	838.5	3,612.4
2015	1,242.2	320.6	1,562.8	1,200.9	5,376.5
2020	1,613.0	424.8	2,037.8	1,740.4	7,039.9
2025	2,085.8	490.1	2,575.9	2,464.7	8,019.8
2030	2,699.7	478.9	3,178.6	3,367.5	7,712.4
2035	3,500.5	359.1	3,859.6	4,448.1	5,604.6
2040	4,529.9	100.0	4,629.9	5,731.2	1,194.0
2045	(1)	(1)	(1)	(1)	(1)
Alternative III:					
1991	304.3	21.9	326.2	274.1	277.4
1992	320.4	25.8	346.2	298.1	325.5
1993	344.1	30.0	374.1	321.3	378.3
1994	369.7	34.7	404.4	348.6	434.0
1995	385.1	38.6	423.7	376.2	481.6
1996	413.9	42.2	456.1	401.1	536.6
1997	444.1	45.8	489.9	428.8	597.7
1998	475.0	49.6	524.6	458.6	663.7
1999	506.2	53.5	559.7	490.9	732.5
2000	539.0	57.4	596.4	525.6	803.4
2005	730.6	73.4	804.0	715.3	1,209.7
2010	993.6	104.2	1,097.8	1,001.2	1,702.5
2015	1,327.2	120.7	1,447.9	1,463.0	1,917.4
2020	1,751.4	68.9	1,820.3	2,164.6	959.1
2025	(1)	(1)	(1)	(1)	(1)

[1]The combined OASI and DI Trust Funds are estimated to become exhausted in 2041 under alternative II and in 2022 under alternative III.

Table F4 shows estimated income excluding interest and total outgo of the combined OASI and DI Trust Funds, of the HI Trust Fund, and of the combined OASI, DI, and HI Trust Funds, based on the three sets of assumptions I, II, and III described earlier in this report. For OASDI, income excluding interest consists of payroll-tax contributions, proceeds from taxation of benefits, and miscellaneous

reimbursements from the general fund of the Treasury. Outgo consists of benefit payments, administrative expenses, net transfers from the trust funds to the Railroad Retirement program, and payments for vocational rehabilitation services for disabled beneficiaries. For HI, income excluding interest consists of contributions (including contributions from railroad employment) and payments from the general fund of the Treasury for contributions on deemed wage credits for military service. Total outgo consists of outlays (benefits and administrative expenses) for insured beneficiaries. Both the HI income and outgo are on an incurred basis.

Table F4 also shows the excess of income excluding interest over outgo, called the balance. The balance approximately reflects the potential impact of trust fund operations on the Federal Budget. Interest income is excluded because it is an intragovernmental transfer within the Federal Budget, and therefore does not directly affect the total Federal Budget balance. Other types of income, because they are components of total government receipts, have a direct effect on the total budget balance.

TABLE F4.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1991-2065

[In billions]

Calendar year	OASDI			HI			Total		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Alternative I:									
1991	$309.5	$272.8	$36.7	$76.1	$68.1	$8.1	$385.6	$340.9	$44.7
1992	330.3	289.4	40.9	80.8	72.9	7.9	411.1	362.3	48.8
1993	351.2	302.6	48.6	86.1	78.5	7.6	437.3	381.1	56.2
1994	375.4	316.9	58.5	91.6	85.5	6.2	467.0	402.3	64.7
1995	397.3	330.9	66.4	97.4	92.9	4.5	494.8	423.8	70.9
1996	424.4	345.5	78.9	103.5	100.6	2.9	527.9	446.0	81.9
1997	450.3	360.9	89.5	109.8	108.5	1.3	560.1	469.3	90.8
1998	478.0	377.4	100.7	116.4	116.8	–.4	594.5	494.2	100.3
1999	507.0	395.1	111.9	123.4	125.7	–2.3	630.4	520.9	109.5
2000	538.1	414.1	124.0	130.8	135.0	–4.2	668.8	549.1	119.8
2005	711.3	532.0	179.3	170.5	183.5	–13.1	881.8	715.5	166.3
2010	929.2	713.2	216.0	221.2	250.6	–29.4	1,150.5	963.8	186.7
2015	1,202.5	1,000.7	201.8	284.6	353.2	–68.7	1,487.0	1,353.9	133.1
2020	1,546.8	1,423.9	122.8	364.0	468.3	–104.3	1,910.8	1,892.2	18.5
2025	1,988.0	1,973.3	14.7	465.7	636.5	–170.9	2,453.7	2,609.9	–156.2
2030	2,565.0	2,630.0	–65.0	599.3	862.7	–263.5	3,164.3	3,492.7	–328.5
2035	3,323.9	3,385.7	–61.8	776.1	1,151.1	–375.0	4,100.0	4,536.8	–436.8
2040	4,304.3	4,253.0	51.3	1,006.0	1,516.2	–510.3	5,310.3	5,769.2	–459.0
2045	5,567.3	5,358.4	208.9	1,302.3	1,984.4	–682.1	6,869.6	7,342.8	–473.2
2050	7,199.9	6,844.8	355.2	1,684.6	2,592.5	–907.9	8,884.5	9,437.3	–552.8
2055	9,321.1	8,864.1	457.0	2,180.3	3,416.3	–1,236.0	11,501.4	12,280.4	–779.0
2060	12,079.6	11,509.2	570.4	2,824.6	4,537.9	–1,713.3	14,904.2	16,047.1	–1,142.9
2065	15,655.8	14,882.1	773.7	3,660.5	6,029.8	–2,369.3	19,316.3	20,911.9	–1,595.5
Alternative II:									
1991	308.2	273.4	34.7	75.8	68.4	7.5	384.0	341.8	42.2
1992	328.6	292.4	36.2	80.5	74.5	6.0	409.1	366.9	42.2
1993	349.1	310.1	39.0	85.6	81.5	4.2	434.7	391.5	43.2
1994	372.4	328.1	44.3	91.0	90.1	.8	463.4	418.2	45.2
1995	395.2	346.8	48.3	96.6	99.5	–2.9	491.8	446.4	45.4
1996	420.4	366.6	53.8	102.6	109.5	–6.9	523.0	476.1	46.9
1997	446.0	387.5	58.4	108.8	120.1	–11.3	554.8	507.7	47.2
1998	473.4	410.0	63.4	115.4	131.5	–16.2	588.8	541.5	47.2
1999	502.3	434.2	68.1	122.3	144.0	–21.7	624.7	578.2	46.5
2000	533.6	460.0	73.6	129.8	157.4	–27.7	663.3	617.4	45.9

TABLE F4.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS BY ALTERNATIVE, CALENDAR YEARS 1991-2065 (Cont.)
[In billions]

Calendar year	OASDI			HI			Total		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
Alternative II:									
2005	$712.0	$611.0	$101.0	$170.3	$233.8	–$63.6	$882.3	$844.9	$37.4
2010	947.5	838.5	109.0	224.8	353.2	–128.4	1,172.3	1,191.7	–19.4
2015	1,242.2	1,200.9	41.4	292.7	549.6	–256.9	1,534.9	1,750.5	–215.6
2020	1,613.0	1,740.4	–127.4	377.4	806.9	–429.5	1,990.4	2,547.3	–556.8
2025	2,085.8	2,464.7	–378.9	485.0	1,184.4	–699.4	2,570.8	3,649.1	–1,078.3
2030	2,699.7	3,367.5	–667.8	625.1	1,689.4	–1,064.3	3,324.8	5,056.9	–1,732.1
2035	3,500.5	4,448.1	–947.6	808.8	2,319.0	–1,510.2	4,309.3	6,767.1	–2,457.8
2040	4,529.9	5,731.2	–1,201.2	1,046.3	3,083.3	–2,037.0	5,576.2	8,814.5	–3,238.3
2045	5,844.3	7,376.8	–1,532.4	1,349.6	4,018.1	–2,668.5	7,193.9	11,394.8	–4,200.9
2050	7,523.1	9,588.2	–2,065.1	1,735.7	5,217.2	–3,481.5	9,258.8	14,805.4	–5,546.7
2055	9,680.7	12,598.3	–2,917.6	2,229.9	6,805.7	–4,575.8	11,910.6	19,404.0	–7,493.4
2060	12,463.2	16,554.0	–4,090.8	2,866.1	8,962.9	–6,096.8	15,329.2	25,516.8	–10,187.6
2065	16,051.4	21,607.3	–5,555.9	3,687.1	11,825.5	–8,138.4	19,738.5	33,432.8	–13,694.3
Alternative III:									
1991	304.3	274.1	30.2	74.8	68.5	6.4	379.1	342.5	36.6
1992	320.4	298.1	22.3	78.5	75.5	3.0	398.9	373.6	25.3
1993	344.1	321.3	22.8	84.6	84.5	.1	428.8	405.8	22.9
1994	369.7	348.6	21.1	90.4	95.3	–4.9	460.1	443.9	16.2
1995	385.1	376.2	9.0	94.2	106.3	–12.1	479.3	482.4	–3.1
1996	413.9	401.1	12.8	101.2	119.6	–18.4	515.1	520.7	–5.6
1997	444.1	428.8	15.3	108.4	134.5	–26.1	552.6	563.3	–10.8
1998	475.0	458.6	16.4	115.9	151.0	–35.1	590.9	609.6	–18.7
1999	506.2	490.9	15.3	123.4	169.0	–45.6	629.5	659.8	–30.3
2000	539.0	525.6	13.4	131.2	188.2	–57.0	670.2	713.7	–43.6
2005	730.6	715.3	15.3	174.4	309.3	–134.9	905.0	1,024.6	–119.6
2010	993.6	1,001.2	–7.7	235.1	521.4	–286.3	1,228.7	1,522.6	–294.0
2015	1,327.2	1,463.0	–135.8	311.6	906.2	–594.7	1,638.8	2,369.2	–730.5
2020	1,751.4	2,164.6	–413.3	407.8	1,476.8	–1,068.9	2,159.2	3,641.4	–1,482.2
2025	2,293.2	3,143.7	–850.4	529.8	2,349.9	–1,820.0	2,823.0	5,493.5	–2,670.5
2030	2,998.2	4,427.5	–1,429.3	688.3	3,549.3	–2,861.0	3,686.5	7,976.8	–4,290.3
2035	3,914.8	6,049.9	–2,135.2	894.8	5,049.0	–4,154.3	4,809.6	11,099.0	–6,289.4
2040	5,091.5	8,079.0	–2,987.5	1,160.6	6,774.6	–5,614.1	6,252.1	14,853.7	–8,601.6
2045	6,586.2	10,752.3	–4,166.1	1,497.4	8,836.9	–7,339.6	8,083.6	19,589.3	–11,505.7
2050	8,481.0	14,388.7	–5,907.7	1,921.2	11,452.5	–9,531.3	10,402.2	25,841.2	–15,439.0
2055	10,897.5	19,389.1	–8,491.6	2,457.4	14,913.7	–12,456.3	13,354.9	34,302.8	–20,947.9
2060	13,991.5	26,025.6	–12,034.1	3,140.5	19,541.8	–16,401.2	17,132.0	45,567.4	–28,435.4
2065	17,968.4	34,587.8	–16,619.4	4,018.4	25,634.5	–21,616.1	21,986.8	60,222.3	–38,235.5

Table F5 shows estimated income excluding interest, total outgo, and the excess of income excluding interest over total outgo (balance) of the combined OASI and DI Trust Funds, of the HI Trust Fund, and of the combined OASI, DI, and HI Trust Funds, annually for alternative II.

TABLE F5.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS FOR ALTERNATIVE II, CALENDAR YEARS 1991-2065
[In billions]

Calendar year	OASDI			HI			Total		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
1991	$308.2	$273.4	$34.7	$75.8	$68.4	$7.5	$384.0	$341.8	$42.2
1992	328.7	292.4	36.2	80.5	74.5	6.0	409.1	366.9	42.2
1993	349.1	310.1	39.0	85.6	81.5	4.2	434.7	391.5	43.2
1994	372.4	328.1	44.3	91.0	90.1	.8	463.4	418.2	45.2
1995	395.2	346.8	48.3	96.6	99.5	–2.9	491.8	446.4	45.4
1996	420.4	366.6	53.8	102.6	109.5	–6.9	523.0	476.1	46.9
1997	446.0	387.5	58.4	108.8	120.1	–11.3	554.8	507.7	47.2
1998	473.4	410.0	63.4	115.4	131.5	–16.2	588.8	541.5	47.2
1999	502.3	434.2	68.1	122.3	144.0	–21.7	624.7	578.2	46.5
2000	533.6	460.0	73.6	129.8	157.4	–27.7	663.3	617.4	45.9

TABLE F5.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE IN CURRENT DOLLARS FOR ALTERNATIVE II, CALENDAR YEARS 1991-2065 (Cont.)
[In billions]

Calendar year	OASDI			HI			Total		
	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance
2001	$565.0	$486.7	$78.3	$135.5	$170.5	-$35.0	$700.5	$657.2	$43.4
2002	598.7	514.3	84.4	143.5	184.6	-41.1	742.2	698.9	43.2
2003	634.2	544.0	90.2	151.9	199.7	-47.8	786.1	743.7	42.4
2004	671.9	576.2	95.7	160.8	216.1	-55.3	832.7	792.3	40.4
2005	712.0	611.0	101.0	170.3	233.8	-63.6	882.3	844.9	37.4
2006	754.8	648.4	106.4	180.3	253.3	-73.0	935.1	901.7	33.4
2007	799.4	688.6	110.8	190.7	275.2	-84.5	990.1	963.8	26.3
2008	846.1	733.4	112.7	201.5	299.6	-98.2	1,047.6	1,033.0	14.6
2009	895.4	783.7	111.7	212.8	325.8	-112.9	1,108.2	1,109.5	-1.2
2010	947.5	838.5	109.0	224.8	353.2	-128.4	1,172.3	1,191.7	-19.4
2011	1,001.8	898.3	103.5	237.3	384.3	-147.0	1,239.1	1,282.7	-43.5
2012	1,058.1	964.1	94.0	250.3	420.7	-170.4	1,308.5	1,384.8	-76.4
2013	1,116.0	1,036.3	79.7	263.6	460.8	-197.2	1,379.5	1,497.0	-117.5
2014	1,177.6	1,115.1	62.5	277.8	503.3	-225.5	1,455.4	1,618.4	-163.0
2015	1,242.2	1,200.9	41.4	292.7	549.6	-256.9	1,534.9	1,750.5	-215.6
2016	1,309.6	1,293.8	15.8	308.1	592.5	-284.4	1,617.7	1,886.3	-268.6
2017	1,380.2	1,394.5	-14.2	324.3	640.0	-315.7	1,704.5	2,034.4	-329.9
2018	1,454.0	1,502.3	-48.3	341.1	691.8	-350.7	1,795.1	2,194.1	-399.0
2019	1,531.6	1,617.7	-86.1	358.8	747.1	-388.3	1,890.4	2,364.8	-474.4
2020	1,613.0	1,740.4	-127.4	377.4	806.9	-429.5	1,990.4	2,547.3	-556.8
2021	1,698.3	1,870.1	-171.8	396.8	872.2	-475.4	2,095.1	2,742.3	-647.1
2022	1,787.8	2,007.2	-219.4	417.2	943.7	-526.5	2,205.0	2,950.9	-745.9
2023	1,882.1	2,152.0	-269.9	438.7	1,018.3	-579.6	2,320.8	3,170.3	-849.5
2024	1,981.3	2,304.3	-323.0	461.2	1,098.8	-637.6	2,442.5	3,403.1	-960.6
2025	2,085.8	2,464.7	-378.9	485.0	1,184.4	-699.4	2,570.8	3,649.1	-1,078.3
2026	2,195.8	2,632.3	-436.5	510.1	1,274.5	-764.4	2,705.9	3,906.8	-1,200.9
2027	2,311.4	2,806.4	-495.0	536.4	1,371.5	-835.1	2,847.8	4,177.8	-1,330.1
2028	2,434.1	2,986.3	-552.2	564.4	1,472.9	-908.5	2,998.4	4,459.1	-1,460.7
2029	2,563.4	3,173.3	-609.8	593.9	1,579.0	-985.1	3,157.4	4,752.3	-1,594.9
2030	2,699.7	3,367.5	-667.8	625.1	1,689.4	-1,064.3	3,324.8	5,056.9	-1,732.1
2031	2,843.4	3,569.2	-725.8	657.9	1,804.4	-1,146.4	3,501.4	5,373.5	-1,872.2
2032	2,995.4	3,778.9	-783.5	692.8	1,925.2	-1,232.4	3,688.2	5,704.1	-2,015.9
2033	3,155.8	3,996.3	-840.6	729.5	2,050.5	-1,321.0	3,885.3	6,046.8	-2,161.5
2034	3,324.2	4,219.3	-895.1	768.2	2,181.6	-1,413.3	4,092.5	6,400.9	-2,308.4
2035	3,500.5	4,448.1	-947.6	808.8	2,319.0	-1,510.2	4,309.3	6,767.1	-2,457.8
2036	3,685.7	4,684.2	-998.4	851.5	2,462.8	-1,611.3	4,537.2	7,146.9	-2,609.8
2037	3,880.9	4,929.0	-1,048.1	896.5	2,610.6	-1,714.1	4,777.4	7,539.6	-2,762.2
2038	4,086.9	5,183.6	-1,096.7	944.0	2,762.1	-1,818.1	5,031.0	7,945.8	-2,914.8
2039	4,303.4	5,450.7	-1,147.3	994.0	2,919.6	-1,925.6	5,297.4	8,370.3	-3,073.0
2040	4,529.9	5,731.2	-1,201.2	1,046.3	3,083.3	-2,037.0	5,576.2	8,814.5	-3,238.3
2041	4,767.2	6,025.4	-1,258.1	1,101.1	3,252.7	-2,151.6	5,868.3	9,278.1	-3,409.8
2042	5,017.6	6,335.0	-1,317.4	1,158.9	3,431.5	-2,272.6	6,176.5	9,766.6	-3,590.0
2043	5,280.1	6,662.9	-1,382.9	1,219.5	3,616.8	-2,397.3	6,499.5	10,279.7	-3,780.2
2044	5,555.5	7,009.7	-1,454.2	1,283.0	3,812.3	-2,529.3	6,838.5	10,822.0	-3,983.5
2045	5,844.3	7,376.8	-1,532.4	1,349.6	4,018.1	-2,668.5	7,193.9	11,394.8	-4,200.9
2046	6,147.8	7,766.0	-1,618.2	1,419.5	4,235.0	-2,815.5	7,567.3	12,001.0	-4,433.7
2047	6,466.7	8,179.6	-1,712.8	1,493.0	4,463.9	-2,971.0	7,959.7	12,643.5	-4,683.8
2048	6,802.0	8,620.6	-1,818.6	1,570.1	4,700.4	-3,130.4	8,372.1	13,321.1	-4,949.0
2049	7,154.1	9,090.0	-1,935.9	1,651.0	4,949.5	-3,298.5	8,805.0	14,039.4	-5,234.4
2050	7,523.1	9,588.2	-2,065.1	1,735.7	5,217.2	-3,481.5	9,258.8	14,805.4	-5,546.7
2051	7,911.0	10,119.4	-2,208.4	1,824.6	5,498.4	-3,673.8	9,735.6	15,617.8	-5,882.2
2052	8,319.8	10,685.2	-2,365.4	1,918.3	5,796.0	-3,877.7	10,238.2	16,481.3	-6,243.1
2053	8,750.9	11,287.6	-2,536.7	2,017.1	6,109.0	-4,091.9	10,768.0	17,396.5	-6,628.6
2054	9,204.4	11,925.0	-2,720.6	2,120.9	6,444.5	-4,323.6	11,325.2	18,369.5	-7,044.3
2055	9,680.7	12,598.3	-2,917.6	2,229.9	6,805.7	-4,575.8	11,910.6	19,404.0	-7,493.4
2056	10,180.3	13,310.1	-3,129.8	2,344.1	7,193.9	-4,849.8	12,524.4	20,504.0	-7,979.6
2057	10,708.5	14,058.9	-3,350.4	2,464.9	7,603.8	-5,138.9	13,173.4	21,662.7	-8,489.4
2058	11,263.9	14,848.1	-3,584.2	2,591.9	8,029.5	-5,437.6	13,855.8	22,877.6	-9,021.8
2059	11,848.7	15,679.9	-3,831.1	2,725.6	8,479.4	-5,753.8	14,574.3	24,159.3	-9,584.9
2060	12,463.2	16,554.0	-4,090.8	2,866.1	8,962.9	-6,096.8	15,329.2	25,516.8	-10,187.6
2061	13,109.7	17,471.7	-4,362.0	3,013.9	9,474.1	-6,460.2	16,123.6	26,945.8	-10,822.1
2062	13,790.0	18,431.3	-4,641.3	3,169.5	10,013.5	-6,844.0	16,959.5	28,444.8	-11,485.3
2063	14,505.9	19,437.6	-4,931.7	3,333.4	10,584.0	-7,250.6	17,839.2	30,021.6	-12,182.3
2064	15,259.1	20,496.5	-5,237.4	3,505.8	11,188.3	-7,682.5	18,764.9	31,684.8	-12,919.9
2065	16,051.4	21,607.3	-5,555.9	3,687.1	11,825.5	-8,138.4	19,738.5	33,432.8	-13,694.3

Table F6 shows estimated future benefit amounts payable to persons retiring at the normal retirement age and to persons retiring at age 65 for various pre-retirement earnings levels, based on alternative II assumptions. The benefit amount is shown in current dollars, constant dollars (adjusted by the CPI indexing series shown in table F1), and as a percentage of earnings in the year before retirement. The normal retirement age is currently 65, and is scheduled to increase to age 66 during the period 2000-2005 (at a rate of 2 months per year as workers attain age 62), and to age 67 during the period 2017-2022 (also by 2 months per year as workers attain age 62). The pre-retirement earnings levels shown are: low (earnings at 45 percent of the projected SSA average wage index), average (earnings at the amount of the projected SSA average wage index), and maximum (earnings at the amount of the projected SSA contribution and benefit base).

TABLE F6.—ESTIMATED BENEFIT AMOUNT PAYABLE TO RETIRED WORKERS WITH VARIOUS PRE-RETIREMENT EARNINGS LEVELS BASED ON ALTERNATIVE II ASSUMPTIONS, CALENDAR YEARS 1995-2065

	Current dollars			Constant 1991 dollars[1]			Percent of earnings		
Calendar year	Low[2]	Average	Maximum[3]	Low[2]	Average	Maximum[3]	Low[2]	Average	Maxi-mum[3]
Normal retirement:									
1995	$6,545	$10,734	$14,966	$5,595	$9,175	$12,793	57.3	42.3	24.6
2000	8,275	13,669	19,802	5,814	9,604	13,913	56.1	41.7	25.2
2005	11,204	18,333	27,529	6,470	10,587	15,898	59.2	43.6	27.2
2010	13,591	22,483	34,792	6,451	10,672	16,514	56.0	41.7	26.8
2015	17,436	28,833	45,532	6,802	11,248	17,763	56.0	41.7	27.4
2020	24,011	39,786	63,034	7,699	12,757	20,212	60.2	44.9	29.6
2025	29,653	48,506	76,909	7,815	12,784	20,270	57.9	42.7	28.2
2030	36,572	60,594	96,073	7,922	13,126	20,811	55.7	41.6	27.4
2035	46,896	77,700	123,192	8,350	13,834	21,934	55.7	41.5	27.4
2040	60,137	99,644	157,866	8,801	14,582	23,102	55.7	41.6	27.4
2045	77,122	127,779	202,453	9,276	15,370	24,351	55.7	41.6	27.4
2050	98,903	163,862	259,614	9,778	16,200	25,666	55.7	41.6	27.4
2055	126,826	210,128	332,907	10,306	17,075	27,051	55.7	41.5	27.4
2060	162,645	269,473	426,979	10,863	17,998	28,513	55.7	41.6	27.4
2065	208,579	345,567	547,467	11,450	18,970	30,053	55.7	41.6	27.4
Age-65 retirement:									
1995	6,545	10,734	14,966	5,595	9,175	12,793	57.3	42.3	24.6
2000	8,275	13,669	19,802	5,814	9,604	13,913	56.1	41.7	25.2
2005	10,427	17,028	25,604	6,021	9,833	14,786	55.1	40.5	25.3
2010	12,760	21,082	32,678	6,056	10,006	15,510	52.6	39.1	25.2
2015	16,368	27,038	42,767	6,386	10,548	16,684	52.6	39.1	25.7
2020	20,999	34,267	54,483	6,733	10,988	17,470	52.6	38.6	25.6
2025	25,320	41,290	65,709	6,673	10,882	17,318	49.5	36.3	24.1
2030	32,064	52,954	84,274	6,946	11,471	18,255	48.9	36.3	24.1
2035	41,118	67,910	108,037	7,321	12,091	19,236	48.9	36.3	24.0
2040	52,734	87,088	138,483	7,717	12,744	20,266	48.9	36.3	24.0
2045	67,621	111,677	177,588	8,134	13,433	21,361	48.9	36.3	24.0
2050	86,719	143,212	227,722	8,573	14,158	22,513	48.9	36.3	24.0
2055	111,208	183,653	292,019	9,037	14,923	23,729	48.9	36.3	24.0
2060	142,608	235,514	374,481	9,525	15,730	25,011	48.9	36.3	24.0
2065	182,879	302,021	480,233	10,039	16,579	26,362	48.9	36.3	24.0

[1]The adjustment from current to constant dollars is by the CPI indexing series shown in table F1.

[2]Earnings equal to 45 percent of average.

[3]Earnings equal to the SSA contribution and benefit base.

APPENDIX G.—LONG-RANGE ESTIMATES OF SOCIAL SECURITY TRUST FUND OPERATIONS AS A PERCENTAGE OF THE GROSS NATIONAL PRODUCT

This appendix presents long-range projections of the operations of the combined Old-Age and Survivors Insurance and Disability Insurance (OASI and DI) Trust Funds and of the Hospital Insurance (HI) Trust Fund expressed as a percentage of the gross national product (GNP). While expressing these fund operations as a percentage of taxable payroll is the most useful approach for assessing the financial status of the programs, (see table 26 and Appendix E), analyzing them as a percentage of GNP provides an additional perspective on these fund operations in relation to the total value of goods and services produced by the U.S. economy.

Table G1 shows estimated income excluding interest, total outgo, and the resulting balance of the combined OASI and DI Trust Funds, of the HI Trust Fund, and of the combined OASI, DI, and HI Trust Funds, expressed as percentages of GNP on the basis of each of the three alternative sets of assumptions. The estimated GNP on which these percentages are based is also shown in table G1. For OASDI, income excluding interest consists of payroll-tax contributions, proceeds from taxation of benefits, and various reimbursements from the general fund of the Treasury. Total outgo consists of benefit payments, administrative expenses, net transfers from the trust funds to the Railroad Retirement program, and payments for vocational rehabilitation services for disabled beneficiaries. For HI, income excluding interest consists of contributions (including contributions from railroad employment) and payments from the general fund of the Treasury for contributions on deemed wage credits for military service. Total outgo consists of outlays (benefits and administrative expenses) for insured beneficiaries. Both the HI income and outgo are on an incurred basis.

For the next 15 years, the OASDI balance (income excluding interest less outgo) as a percentage of GNP is projected to increase on the basis of alternatives I and II, and to decline on the basis of alternative III. The projected HI balance as a percentage of GNP, however, decreases through 2005 under all three alternatives. The combined OASDI and HI balance as a percentage of GNP is projected, for the next 15 years, to increase under alternative I, and to decline under alternatives II and III. Between 2005 and about 2030, under all three alternatives, both the OASDI and HI balances as percentages of GNP are projected to decline substantially because of the baby-boom generation's reaching retirement age. By 2030, balances are projected to become permanently negative in each case except for the OASDI program under alternative I. After 2030, both the HI and OASDI balances as percentages of GNP are projected to change slightly or to stabilize, except for OASDI under alternative III, for which the balance as a percentage of GNP is projected to continue decreasing.

The combined OASDI and HI balances as percentages of GNP, based on the three alternatives, differ by a relatively large amount around the end of the long-range period (about 9.6 percentage points between alternatives I and III in 2065), while differing by a much smaller amount at the end of the medium-range period (3.5 percentage points in 2015). In addition, the summarized long-range balance as a percentage of GNP varies by a relatively large amount (from 0.20 percent, based on alternative I, to -4.94 percent, based on alternative III), while the medium-range balance varies by a smaller amount (from 1.11 to -0.87 percent). Summarized rates are calculated on the present-value basis including the trust

fund balances on January 1, 1991 and the cost of reaching and maintaining a target trust fund level equal to 100 percent of annual expenditures by the end of the period. (See section VI for explanation.)

TABLE G1.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GNP BY ALTERNATIVE, CALENDAR YEARS 1991-2065

	Percentage of GNP									
	OASDI			HI			Total			
Calendar year	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	GNP in dollars (billions)
Alternative I:										
1991	5.46	4.82	0.65	1.34	1.20	0.14	6.81	6.02	0.79	5,666
1992	5.48	4.80	.68	1.34	1.21	.13	6.82	6.01	.81	6,030
1993	5.46	4.70	.76	1.34	1.22	.12	6.80	5.93	.87	6,431
1994	5.49	4.63	.86	1.34	1.25	.09	6.83	5.88	.95	6,838
1995	5.47	4.56	.92	1.34	1.28	.06	6.82	5.84	.98	7,259
1996	5.51	4.49	1.02	1.34	1.31	.04	6.85	5.79	1.06	7,700
1997	5.52	4.42	1.10	1.34	1.33	.02	6.86	5.75	1.11	8,165
1998	5.53	4.36	1.16	1.35	1.35	.00	6.87	5.71	1.16	8,648
1999	5.54	4.32	1.22	1.35	1.37	–.03	6.88	5.69	1.20	9,157
2000	5.55	4.27	1.28	1.35	1.39	–.04	6.90	5.66	1.24	9,695
2005	5.57	4.17	1.40	1.34	1.44	–.10	6.91	5.60	1.30	12,766
2010	5.58	4.29	1.30	1.33	1.51	–.18	6.91	5.79	1.12	16,641
2015	5.59	4.65	.94	1.32	1.64	–.32	6.91	6.29	.62	21,515
2020	5.59	5.15	.44	1.32	1.69	–.38	6.91	6.84	.07	27,659
2025	5.59	5.55	.04	1.31	1.79	–.48	6.90	7.34	–.44	35,562
2030	5.58	5.72	–.14	1.30	1.88	–.57	6.88	7.59	–.71	45,987
2035	5.55	5.66	–.10	1.30	1.92	–.63	6.85	7.58	–.73	59,851
2040	5.52	5.46	.07	1.29	1.95	–.65	6.81	7.40	–.59	77,949
2045	5.49	5.28	.21	1.28	1.96	–.67	6.77	7.24	–.47	101,398
2050	5.46	5.19	.27	1.28	1.97	–.69	6.74	7.16	–.42	131,802
2055	5.44	5.17	.27	1.27	1.99	–.72	6.71	7.16	–.45	171,410
2060	5.41	5.16	.26	1.27	2.03	–.77	6.68	7.19	–.51	223,134
2065	5.39	5.12	.27	1.26	2.08	–.82	6.65	7.20	–.55	290,565
Summarized rates:[1]										
25-year: 1991-2015	5.74	4.59	1.15	1.42	1.47	–.05	7.17	6.06	1.11	---
50-year: 1991-2040	5.67	4.98	.70	1.37	1.62	–.25	7.04	6.60	.44	---
75-year: 1991-2065	5.61	5.03	.58	1.34	1.72	–.38	6.96	6.76	.20	---
Alternative II:										
1991	5.45	4.84	.61	1.34	1.21	.13	6.80	6.05	.75	5,650
1992	5.44	4.84	.60	1.33	1.23	.10	6.77	6.07	.70	6,046
1993	5.41	4.81	.60	1.33	1.26	.06	6.74	6.07	.67	6,449
1994	5.43	4.79	.65	1.33	1.31	.01	6.76	6.10	.66	6,854
1995	5.42	4.76	.66	1.33	1.37	–.04	6.75	6.13	.62	7,285
1996	5.43	4.73	.69	1.32	1.41	–.09	6.75	6.15	.61	7,743
1997	5.42	4.71	.71	1.32	1.46	–.14	6.74	6.17	.57	8,228
1998	5.42	4.69	.72	1.32	1.50	–.18	6.74	6.20	.54	8,741
1999	5.41	4.68	.73	1.32	1.55	–.23	6.73	6.23	.50	9,287
2000	5.41	4.66	.75	1.32	1.60	–.28	6.72	6.26	.47	9,866
2005	5.41	4.64	.77	1.29	1.78	–.48	6.71	6.42	.28	13,155
2010	5.41	4.78	.62	1.28	2.01	–.73	6.69	6.80	–.11	17,529
2015	5.39	5.21	.18	1.27	2.38	–1.11	6.66	7.60	–.94	23,047
2020	5.37	5.80	–.42	1.26	2.69	–1.43	6.63	8.49	–1.86	30,011
2025	5.36	6.33	–.97	1.25	3.04	–1.80	6.60	9.37	–2.77	38,941
2030	5.33	6.65	–1.32	1.23	3.33	–2.10	6.56	9.98	–3.42	50,669
2035	5.29	6.72	–1.43	1.22	3.50	–2.28	6.51	10.22	–3.71	66,191
2040	5.24	6.63	–1.39	1.21	3.57	–2.36	6.45	10.20	–3.75	86,449
2045	5.19	6.55	–1.36	1.20	3.57	–2.37	6.39	10.12	–3.73	112,578
2050	5.15	6.56	–1.41	1.19	3.57	–2.38	6.33	10.13	–3.79	146,171
2055	5.11	6.65	–1.54	1.18	3.59	–2.41	6.28	10.23	–3.95	189,587
2060	5.07	6.73	–1.66	1.17	3.64	–2.48	6.23	10.37	–4.14	246,009
2065	5.02	6.76	–1.74	1.15	3.70	–2.55	6.18	10.46	–4.29	319,514
Summarized rates:[1]										
25-year: 1991-2015	5.62	4.99	.63	1.39	1.80	–.41	7.01	6.79	.22	---
50-year: 1991-2040	5.49	5.58	–.09	1.32	2.40	–1.07	6.82	7.98	–1.16	---
75-year: 1991-2065	5.40	5.85	–.45	1.29	2.70	–1.42	6.69	8.55	–1.86	---

TABLE G1.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GNP BY ALTERNATIVE, CALENDAR YEARS 1991-2065 (Cont.)

	Percentage of GNP									
	OASDI			HI			Total			
Calendar year	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	GNP in dollars (billions)
Alternative III:										
1991	5.49	4.94	0.55	1.35	1.24	0.11	6.84	6.18	0.66	5,543
1992	5.42	5.05	.38	1.38	1.28	.05	6.75	6.32	.43	5,908
1993	5.34	4.99	.35	1.31	1.31	.00	6.66	6.30	.36	6,441
1994	5.39	5.08	.31	1.32	1.39	–.07	6.71	6.47	.24	6,859
1995	5.40	5.27	.13	1.32	1.49	–.17	6.72	6.77	–.04	7,131
1996	5.35	5.19	.17	1.31	1.55	–.24	6.66	6.73	–.07	7,735
1997	5.34	5.16	.18	1.30	1.62	–.31	6.65	6.77	–.13	8,315
1998	5.35	5.16	.18	1.31	1.70	–.40	6.65	6.86	–.21	8,880
1999	5.34	5.18	.16	1.30	1.78	–.48	6.65	6.97	–.32	9,474
2000	5.33	5.20	.13	1.30	1.86	–.56	6.63	7.06	–.43	10,107
2005	5.31	5.20	.11	1.27	2.25	–.98	6.58	7.45	–.87	13,750
2010	5.29	5.33	–.04	1.25	2.77	–1.52	6.54	8.10	–1.56	18,790
2015	5.25	5.79	–.54	1.23	3.59	–2.35	6.49	9.38	–2.89	25,267
2020	5.22	6.45	–1.23	1.22	4.40	–3.19	6.43	10.85	–4.42	33,555
2025	5.19	7.11	–1.92	1.20	5.31	–4.12	6.38	12.42	–6.04	44,223
2030	5.14	7.60	–2.45	1.18	6.09	–4.91	6.33	13.69	–7.36	58,277
2035	5.09	7.87	–2.78	1.16	6.57	–5.41	6.26	14.44	–8.18	76,849
2040	5.04	7.99	–2.95	1.15	6.70	–5.55	6.18	14.69	–8.51	101,112
2045	4.98	8.13	–3.15	1.13	6.68	–5.55	6.11	14.80	–8.70	132,326
2050	4.92	8.35	–3.43	1.12	6.65	–5.53	6.04	15.00	–8.96	172,225
2055	4.88	8.68	–3.80	1.10	6.67	–5.57	5.98	15.35	–9.37	223,451
2060	4.83	8.98	–4.15	1.08	6.75	–5.66	5.91	15.73	–9.82	289,674
2065	4.78	9.20	–4.42	1.07	6.82	–5.75	5.85	16.02	–10.17	375,966
Summarized rates:[1]										
25-year: 1991-2015	5.54	5.49	.05	1.37	2.29	–.92	6.91	7.78	–.87	---
50-year: 1991-2040	5.37	6.29	–.92	1.29	3.80	–2.51	6.66	10.10	–3.44	---
75-year: 1991-2065	5.25	6.88	–1.63	1.24	4.55	–3.31	6.49	11.43	–4.94	---

[1]Summarized rates are calculated on the present-value basis including the value of the trust funds on January 1, 1991 and the cost of reaching and maintaining a target trust fund level equal to 100 percent of annual expenditures by the end of the period. (See section VI for explanation.)

The difference between trust fund operations expressed as percentages of taxable payroll and those expressed as percentages of GNP can be seen by analyzing the estimated ratios of taxable payroll to GNP, which are presented in table G2. The cost as a percentage of GNP is approximately equal to the cost as a percentage of taxable payroll multiplied by the ratio of taxable payroll to GNP.

Projections of GNP for the first several years were based on assumed quarterly changes in real GNP and the GNP price deflator. Thereafter, projections of GNP were based on the projected increases in U.S. employment, labor productivity, and the GNP price deflator. Productivity projections are consistent with assumed changes in the level of average earnings, the ratio of earnings to worker compensation, the ratio of worker compensation to GNP, and average hours worked per year (see Appendix A).

Projections of taxable payroll, which are described in detail in Appendix A, were based on the projected increases in covered employment and average taxable earnings. Therefore, the projected increases in taxable payroll differ from projected increases in GNP primarily to the extent that average taxable earnings are assumed to increase more slowly than is productivity and to the extent that coverage of U.S. employment changes.

TABLE G2.—RATIO OF TAXABLE PAYROLL TO GNP BY ALTERNATIVE, CALENDAR YEARS 1991-2065

Calendar year	I	II	III
1991	0.437	0.436	0.438
1992	.436	.432	.431
1993	.435	.431	.426
1994	.436	.431	.427
1995	.437	.431	.428
1996	.438	.431	.425
1997	.438	.430	.423
1998	.439	.430	.424
1999	.440	.429	.423
2000	.441	.429	.422
2005	.440	.426	.417
2010	.439	.423	.412
2015	.437	.419	.406
2020	.435	.415	.401
2025	.433	.411	.395
2030	.431	.408	.389
2035	.429	.404	.384
2040	.427	.400	.378
2045	.425	.396	.373
2050	.423	.392	.368
2055	.421	.389	.363
2060	.419	.385	.358
2065	.417	.381	.352

The long-range trend in the ratio of taxable payroll to GNP reflects the assumed trend in the ratio of wages to total employee compensation—i.e., wages plus fringe benefits. The ratio of wages to total employee compensation declined at average annual rates of 0.33 percent for the 30 years 1960-89 and 0.29, 0.67, and 0.02 percent for the 10-year periods 1960-69, 1970-79, and 1980-89, respectively.

Through 2015, however, the tendency toward decreases in the ratio of taxable payroll to GNP, discussed above, is at least partially offset by the gradually expanding OASDI coverage of Federal civilian employment resulting from the 1983 amendments. For alternative I, the ratio of taxable payroll to GNP is projected to remain about the same until the year 2010, and then to decrease for the remainder of the long-range period. For alternatives II and III, the ratio of taxable payroll to GNP is projected to decrease essentially throughout the long-range period.

Table G3 presents estimates of income excluding interest, outgo, and balance expressed as a percentage of GNP for the OASI and DI Trust Funds, the HI Trust Fund, and the combined OASI, DI, and HI Trust Funds, as well as the actual dollar amount of GNP, for single calendar years based on alternative II.

TABLE G3.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GNP FOR ALTERNATIVE II, CALENDAR YEARS 1991-2065

	Percentage of GNP									
	OASDI			HI			Total			
Calendar year	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	GNP in dollars (billions)
1991	5.45	4.84	0.61	1.34	1.21	0.13	6.80	6.05	0.75	5,650
1992	5.44	4.84	.60	1.33	1.23	.10	6.77	6.07	.70	6,046
1993	5.41	4.81	.60	1.33	1.26	.06	6.74	6.07	.67	6,449
1994	5.43	4.79	.65	1.33	1.31	.01	6.76	6.10	.66	6,854
1995	5.42	4.76	.66	1.33	1.37	–.04	6.75	6.13	.62	7,285
1996	5.43	4.73	.69	1.32	1.41	–.09	6.75	6.15	.61	7,743
1997	5.42	4.71	.71	1.32	1.46	–.14	6.74	6.17	.57	8,228
1998	5.42	4.69	.72	1.32	1.50	–.18	6.74	6.20	.54	8,741
1999	5.41	4.68	.73	1.32	1.55	–.23	6.73	6.23	.50	9,287
2000	5.41	4.66	.75	1.32	1.60	–.28	6.72	6.26	.47	9,866

TABLE G3.—ESTIMATED OASDI AND HI INCOME EXCLUDING INTEREST, OUTGO, AND BALANCE AS A PERCENTAGE OF GNP FOR ALTERNATIVE II, CALENDAR YEARS 1991-2065 (Cont.)

	Percentage of GNP									
	OASDI			HI			Total			
Calendar year	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	Income excluding interest	Outgo	Balance	GNP in dollars (billions)
2001	5.41	4.66	0.75	1.30	1.63	−0.33	6.71	6.30	0.42	10,440
2002	5.41	4.65	.76	1.30	1.67	−.37	6.71	6.32	.39	11,061
2003	5.41	4.64	.77	1.30	1.70	−.41	6.71	6.35	.36	11,716
2004	5.41	4.64	.77	1.30	1.74	−.45	6.71	6.38	.33	12,412
2005	5.41	4.64	.77	1.29	1.78	−.48	6.71	6.42	.28	13,155
2006	5.41	4.65	.76	1.29	1.82	−.52	6.70	6.46	.24	13,948
2007	5.41	4.66	.75	1.29	1.86	−.57	6.70	6.52	.18	14,779
2008	5.41	4.69	.72	1.29	1.91	−.63	6.70	6.60	.09	15,647
2009	5.41	4.73	.67	1.28	1.97	−.68	6.69	6.70	−.01	16,562
2010	5.41	4.78	.62	1.28	2.01	−.73	6.69	6.80	−.11	17,529
2011	5.40	4.84	.56	1.28	2.07	−.79	6.68	6.92	−.23	18,544
2012	5.40	4.92	.48	1.28	2.15	−.87	6.68	7.07	−.39	19,596
2013	5.40	5.01	.39	1.27	2.23	−.95	6.67	7.24	−.57	20,674
2014	5.39	5.11	.29	1.27	2.31	−1.03	6.67	7.41	−.75	21,833
2015	5.39	5.21	.18	1.27	2.38	−1.11	6.66	7.60	−.94	23,047
2016	5.39	5.32	.07	1.27	2.44	−1.17	6.65	7.76	−1.10	24,311
2017	5.38	5.44	−.06	1.26	2.50	−1.23	6.65	7.94	−1.29	25,637
2018	5.38	5.56	−.18	1.26	2.56	−1.30	6.64	8.12	−1.48	27,022
2019	5.38	5.68	−.30	1.26	2.62	−1.36	6.64	8.30	−1.67	28,479
2020	5.37	5.80	−.42	1.26	2.69	−1.43	6.63	8.49	−1.86	30,011
2021	5.37	5.91	−.54	1.26	2.76	−1.50	6.63	8.67	−2.05	31,616
2022	5.37	6.03	−.66	1.25	2.83	−1.58	6.62	8.86	−2.24	33,303
2023	5.36	6.13	−.77	1.25	2.90	−1.65	6.61	9.04	−2.42	35,084
2024	5.36	6.23	−.87	1.25	2.97	−1.73	6.61	9.21	−2.60	36,960
2025	5.36	6.33	−.97	1.25	3.04	−1.80	6.60	9.37	−2.77	38,941
2026	5.35	6.42	−1.06	1.24	3.11	−1.86	6.59	9.52	−2.93	41,031
2027	5.35	6.49	−1.14	1.24	3.17	−1.93	6.59	9.66	−3.08	43,231
2028	5.34	6.55	−1.21	1.24	3.23	−1.99	6.58	9.78	−3.21	45,575
2029	5.33	6.60	−1.27	1.24	3.29	−2.05	6.57	9.89	−3.32	48,053
2030	5.33	6.65	−1.32	1.23	3.33	−2.10	6.56	9.98	−3.42	50,669
2031	5.32	6.68	−1.36	1.23	3.38	−2.15	6.55	10.06	−3.50	53,436
2032	5.31	6.70	−1.39	1.23	3.42	−2.19	6.54	10.12	−3.58	56,372
2033	5.31	6.72	−1.41	1.23	3.45	−2.22	6.53	10.17	−3.63	59,477
2034	5.30	6.72	−1.43	1.22	3.48	−2.25	6.52	10.20	−3.68	62,753
2035	5.29	6.72	−1.43	1.22	3.50	−2.28	6.51	10.22	−3.71	66,191
2036	5.28	6.71	−1.43	1.22	3.53	−2.31	6.50	10.24	−3.74	69,817
2037	5.27	6.69	−1.42	1.22	3.54	−2.33	6.49	10.24	−3.75	73,648
2038	5.26	6.67	−1.41	1.21	3.55	−2.34	6.47	10.23	−3.75	77,703
2039	5.25	6.65	−1.40	1.21	3.56	−2.35	6.46	10.21	−3.75	81,972
2040	5.24	6.63	−1.39	1.21	3.57	−2.36	6.45	10.20	−3.75	86,449
2041	5.23	6.61	−1.38	1.21	3.57	−2.36	6.44	10.18	−3.74	91,149
2042	5.22	6.59	−1.37	1.21	3.57	−2.36	6.43	10.16	−3.74	96,119
2043	5.21	6.58	−1.36	1.20	3.57	−2.37	6.41	10.14	−3.73	101,337
2044	5.20	6.56	−1.36	1.20	3.57	−2.37	6.40	10.13	−3.73	106,820
2045	5.19	6.55	−1.36	1.20	3.57	−2.37	6.39	10.12	−3.73	112,578
2046	5.18	6.55	−1.36	1.20	3.57	−2.37	6.38	10.12	−3.74	118,636
2047	5.17	6.54	−1.37	1.19	3.57	−2.38	6.37	10.11	−3.75	125,013
2048	5.16	6.54	−1.38	1.19	3.57	−2.38	6.36	10.11	−3.76	131,721
2049	5.16	6.55	−1.40	1.19	3.57	−2.38	6.34	10.12	−3.77	138,771
2050	5.15	6.56	−1.41	1.19	3.57	−2.38	6.33	10.13	−3.79	146,171
2051	5.14	6.57	−1.43	1.19	3.57	−2.39	6.32	10.14	−3.82	153,955
2052	5.13	6.59	−1.46	1.18	3.57	−2.39	6.31	10.16	−3.85	162,171
2053	5.12	6.61	−1.48	1.18	3.58	−2.40	6.30	10.18	−3.88	170,843
2054	5.11	6.63	−1.51	1.18	3.58	−2.40	6.29	10.21	−3.91	179,977
2055	5.11	6.65	−1.54	1.18	3.59	−2.41	6.28	10.23	−3.95	189,587
2056	5.10	6.67	−1.57	1.17	3.60	−2.43	6.27	10.27	−4.00	199,679
2057	5.09	6.68	−1.59	1.17	3.61	−2.44	6.26	10.30	−4.04	210,371
2058	5.08	6.70	−1.62	1.17	3.62	−2.45	6.25	10.32	−4.07	221,630
2059	5.07	6.71	−1.64	1.17	3.63	−2.46	6.24	10.35	−4.10	233,506
2060	5.07	6.73	−1.66	1.17	3.64	−2.48	6.23	10.37	−4.14	246,009
2061	5.06	6.74	−1.68	1.16	3.66	−2.49	6.22	10.40	−4.18	259,193
2062	5.05	6.75	−1.70	1.16	3.67	−2.51	6.21	10.42	−4.21	273,096
2063	5.04	6.75	−1.71	1.16	3.68	−2.52	6.20	10.43	−4.23	287,759
2064	5.03	6.76	−1.73	1.16	3.69	−2.53	6.19	10.45	−4.26	303,221
2065	5.02	6.76	−1.74	1.15	3.70	−2.55	6.18	10.46	−4.29	319,514

APPENDIX H.—STATEMENT OF ACTUARIAL OPINION

It is my opinion that (1) the techniques and methodology used herein to evaluate the financial and actuarial status of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds are generally accepted within the actuarial profession; and (2) the assumptions used and the resulting actuarial estimates are, in the aggregate, reasonable for the purpose of evaluating the financial and actuarial status of the trust funds, taking into consideration the experience and expectations of the program.

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